DIVISION 1
GENERAL REQUIREMENTS

Requirements contained in this division are directly applicable to all other divisions. A thorough knowledge of the requirements of this division is necessary for the satisfactory administration of the other portions of the Specifications.

SECTION 104
SCOPE OF THE WORK

GENERAL

This section of the Specifications sets forth the intent of the contract provisions relative to adjustments to the terms of the contract as a result of changes in plans, deviations from contract quantities, extra work, and changed conditions, as well as requirements for maintenance and final cleanup. Engineers and others involved in construction cannot properly perform their function unless they are thoroughly familiar with the provisions of this section. A misinterpretation of, mishandling of, or a failure to follow these provisions may result in very costly expenditures by both the Department and the Contractor.

The Contractor should fully comply with the requirements of this section even if, in his opinion, he is clearly due additional compensation for the work. Conversely, when the Engineer receives a request for additional compensation or notice of intent to file a claim, he shall comply fully with the requirements of the Specifications in spite of the fact that he considers the request or claim to be unwarranted or frivolous.

A claim submitted by the Contractor may initially be denied by someone in the Department. When further reviewed by the approving authority level, their perspective may result in approval of the claim based on additional information or their experience. Documentation of all facts relevant to the claim, checking the Contractor's record keeping, and maintenance of accurate records of labor, equipment, and material utilized in performance of the work is imperative for all claims and disputed work.

104-1 INTENT OF CONTRACT

The responsibility of the Department is to produce a contract with the scope and payment of the work to be performed. It is the Contractor's responsibility to perform the work in accordance with the contract documents. In the event the method of construction or character of any part of the work is not covered by the plans, the Standard Specifications shall apply.

104-2 SUPPLEMENTAL AGREEMENTS

A supplemental agreement as defined in Section 101-3 of the Specifications, is an instrument for making allowable modifications to the terms of the contract; however, modifications are limited to those which are **necessary for the satisfactory completion of the work**. Instructions for preparing and handling the Supplemental Agreement are contained in the Records and Reports Section of this Manual.

A supplemental agreement is required **prior** to making any change in the terms of the contract, including but not limited to compensation, changes in the contract time, and modification of the Specifications. The Engineer must have on file a list of individuals

authorized by the Contractor to execute Supplemental Agreements before processing an agreement.

A supplemental agreement must be executed prior to performing the affected work except as provided in Article 104-8(A). When the affected work is not within the limits established in Article 104-8(A)1 and it is urgent that the work be begun, facsimile copies of the agreement may be executed followed by the original agreement. If the Engineer and the Contractor do not agree to a modification to the terms of the contract prior to the performance of the affected work, neither compensation nor time can be granted by execution of a supplemental agreement.

104-3 ALTERATIONS OF PLANS OR DETAILS OF CONSTRUCTION

The Engineer may make changes in the plans or details of construction as may be necessary or desirable. When the proposed changes extend beyond the original project termini, the Division Engineer shall make a written request for approval to the Chief Engineer providing details as to the necessity of extending the project beyond the original project limits.

The Contractor shall perform the modified work at the original contract unit or lump sum prices unless the character **and** the cost of performing the work materially changed over that originally anticipated and bid upon in the contract.

This provision indicates that when a change in the contract is directed, which the Engineer determines will materially change the character of the work and the cost of performing the work, payment will be made in accordance with the provisions of Subarticle 104-8(A). This provision has a twofold requirement. Both conditions, a material change in the character of the work **and** the cost of performing the work, have to exist in order to modify the unit cost of the work in question. An increase or decrease in the cost of performing the changed work does not in itself constitute justifiable grounds for modifying the unit price in the contract. The character of the work has to materially change along with the cost of performing the work.

Whenever the Engineer makes changes in the plans or details of construction, he should review the changed work to determine if, in his opinion, the character of the work has changed and the cost of performing the work will decrease. If so, he should advise his Division Engineer and determine if a price reduction should be pursued with the Contractor.

When the Department requires the Contractor to perform work which the Contractor feels results in changing the character of the work and materially increases the cost of performing work, he can request additional compensation prior to beginning the work. If the Engineer agrees compensation is due, then payment should be made in accordance with Subarticle 104-8(A). **If the Engineer disagrees with the Contractor's opinion, the Engineer must advise him in writing of the Department's decision**. If the Contractor intends to pursue his request for compensation, he must advise the Engineer in writing prior to beginning work in order to protect his rights to recover the costs after the work is complete in accordance with Subarticle 104-8(B).

Changes which would allow negotiation for revised unit prices are the exception rather than the rule. A simple example would be when the Department directed the only pipe line on the project be shifted from a plan location in earth material to a location in solid rock so that blasting would be required in order to excavate for the pipe line. The Contractor would have to use equipment in the excavation process that could not have been anticipated during the bidding process. The character of the work has materially changed and obviously the cost of the work has increased. The Contractor would be eligible for additional compensation as the alteration met both conditions as outlined in this provision.

Another example would be when the Department directed the Contractor to remove concrete slabs and repair the area using ACBC, Type B 25.0 material. The contract contains the item, ACBC, Type B 25.0; however, all of the material was to be placed by an asphalt paving machine on the four and ten foot shoulders. The repair of areas where the slabs are removed will necessitate the use of hand tools for placement due to the confined area. The character of the work has changed due to the material change in the placement equipment, and the unit cost of performing the work has increased due to the decrease in the production. The Contractor may be due additional compensation under this provision of the contract.

104-4 SUSPENSIONS OF WORK ORDERED BY THE ENGINEER

(A) SUSPENSIONS OF THE WORK ORDERED BY THE ENGINEER

When the Engineer orders the suspension of the work, he must do so in writing. The notice should be sent to the Contractor by **Certified Mail** and should include the date and the hour the suspension begins. When the Contractor believes that a work suspension issued by the Engineer has resulted in costs due to idle equipment and/or labor and the Contractor believes additional compensation is justifiable due to the suspension, the Contractor is required to notify the Engineer of his intent to file a claim within 7 days of the date of the suspension. Upon receipt of the Contractor's notice, the Engineer should immediately begin checking the Contractor's record keeping to verify that the Contractor's equipment and/or labor are idle.

The Engineer must notify the Contractor in writing to resume work. The notice should be sent by **Certified Mail** and should include the date and the time the work is to resume. Within 14 days of receipt of the notice to resume work, the Contractor is required to submit to the Engineer in writing his claim for additional compensation due to the suspension. The claim must be submitted in accordance with Subarticle 104-8(C) and include any reasons and support for an adjustment in compensation.

(B) ALLEGED SUSPENSIONS

When the Contractor feels he is being prevented from performing all or any portion of the work and the Engineer has not suspended the work, the Contractor must notify the Engineer in writing of intent to file a claim for additional compensation by reason of such alleged suspension. **No adjustment in compensation will be made for idle equipment and/or labor prior to the submission of the written notice of intent to file a claim for additional compensation by reason of alleged suspension**. The Engineer should document receipt of notice of intent from the Contractor by writing the date and the time the notice was received on the notice. Upon receipt of the notice, the Engineer will promptly investigate the Contractor's allegations and should also determine available work throughout the project. If the Engineer agrees with the Contractor's allegations, he will notify the Contractor in writing of the suspension of all or part of the work and the Contractor will strictly adhere to the provisions of Subarticle 104-8(C). When the Engineer determines that no portion of the work should be suspended, he will notify the Contractor in writing of his determination. The Engineer should also advise the Contractor of other work available. If the Contractor does not agree with the Engineer's determination, the provisions of Subarticle 104-8(C) will be strictly followed.

Within 14 days after the last day of the alleged suspension, the Contractor is required to submit to the Engineer in writing his claim for additional compensation. The claim must be

submitted in accordance with Subarticle 104-8(C) and include any reasons and support for an adjustment in compensation.

(C) CONDITIONS

If the suspension is for a period of time not originally anticipated, customary, or inherent to the construction industry, is for reasons other than those stated in Article 108-7, and is not the result of the fault or negligence of the Contractor, the Engineer may make an adjustment in compensation for the actual verified cost of the idle equipment and idle labor caused by the suspension determined in accordance with Subarticle 104-8(C). No adjustment in compensation will be made for each occurrence of idle equipment and/or idle labor which has a duration of twenty-four hours or less. If the suspension of all or any portion of the work and the notice to resume work are given by the Engineer within twenty-four hours of each other, no adjustment in compensation will be made. If the Contractor submits a written notice of intent to file a claim for additional compensation by reason of alleged suspension and subsequently resumes work within twenty-four hours of the beginning of the alleged suspension, no adjustment in compensation will be made.

Additional compensation allowed as the result of the suspension of work is limited to idle labor which cannot be absorbed into other work, idle equipment paid at the rate specified for equipment held in readiness, and the percentages established for force account work in Article 109-3.

104-5 OVERRUNS AND UNDERRUNS OF CONTRACT QUANTITIES

(A) GENERAL

Deviations in the final quantities in excess of the specified percentages **may** be valid grounds for revising the unit price for that quantity in excess of the stated percentages if it can be shown that the overrun or underrun of work causes an increase in the unit cost of performing the work. An overrun or underrun in excess of the specified limits is not, in itself, sufficient grounds for revising the unit price.

Adjustment of unit prices is provided both "**before the fact**" and "**after the fact**" due to the overrun or underrun of contract items in excess of the specified limits. In view of this, it is imperative that the Engineer keep the estimated quantities of work performed by the Contractor current and accurate at all times. **When an overrun or underrun of a contract item in excess of the specified limits is anticipated, the Engineer should notify the Contractor in writing of the anticipated overrun or underrun.** The Engineer should consider executing a supplemental agreement at a reduced unit price or the contract unit price for the anticipated excess quantity. If the Contractor is not willing to execute a supplemental agreement at a reduced unit price or the contract unit price, the Engineer should keep detailed cost records for the quantity that exceeds the specified percentages. The Contractor has the responsibility to initiate any increase in unit price; however, such adjustments do not require prior written notice by the Contractor.

Projects are designed utilizing input from each of the preconstruction disciplines. The final product is a design based on sound engineering principals which can be constructed at the most economic cost and within a reasonable time. However, there are times when conditions or circumstances arise during the construction of a project that require a revision to the design or plan quantities. In these instances, the originating design unit should be given an opportunity to re-evaluate the revised circumstances.

The Division Engineer or his representative will consult with the design unit responsible for establishing a contract item when he anticipates either:

the final quantity will exceed the original contract quantity of a major contract item by more than 15%

OR

the final quantity will exceed the original contract quantity of a minor contract item by more than 100% **and** the cost of the overrun amounts to more than $50,000.00

OR

the cost of the overrun of a minor contract item amounts to more than $100,000.00.

The design unit representative will make a recommendation to the State Construction Engineer, either directly or through the Division Engineer, as to whether the additional overrun is warranted. This recommendation should include a cost analysis of the total anticipated overrun and comparisons with other possible alternatives. Following consultation with the Division Engineer, the State Construction Engineer will make a determination whether the additional overrun is warranted.

In addition, each time the total contract overrun is expected to increase by an increment of $500,000.00, the Division Engineer or his representative will consult the Program Development Branch, who will be responsible for the funding of the overrun.

(B) OVERRUNS -- INCREASE IN UNIT PRICES

The Contractor may request an increase in unit price at any time. An increase in unit price made will be made based upon the Contractor's cost records for the work previously performed. An increase made in the unit price after the work is performed will be made by the Engineer based upon a comparison of the Contractor's verified cost records for the work performed and the contract unit price. The increase in the unit price applies only to those quantities beyond the stated percentages. It is incumbent on the Contractor to provide detailed cost records that can be verified by the Engineer. This shall include a daily record of the hours each employee or piece of equipment was used in the work and invoices for all materials used in the work. The Engineer may request other information to be used in his evaluation of the claim, including the Contractor's original or certified copies of original bid document.

(C) UNDERRUNS -- INCREASE IN UNIT PRICES

The Contractor may request an increase in unit price at any time. The Contractor is required to provide sufficient documentation to satisfy the Engineer of the requested additional compensation. He shall provide original or certified copies of original bid documents to support any request for non-recovered fixed costs. When the requested increase in unit prices is for cost other than non-recovered fixed costs, he shall provide documented cost records for the work performed together with documentation that the increased cost was caused by the underrun. The Contractor may not receive additional compensation when a minor item underruns.

(D) OVERRUNS AND UNDERRUNS -- REDUCTION IN UNIT PRICES

A reduction in the contract unit price may be made when a contract item overruns or underruns in excess of the allowable limits. The Engineer has the responsibility to initiate any

decrease in unit price prior to the work being performed. When an agreement cannot be reached regarding the reduction in the unit price to be made, the decision whether to direct the Contractor to perform the work on a force account basis will be made by the Division Engineer and in consultation with the State Construction Engineer.

104-6 ELIMINATED CONTRACT ITEMS

The Engineer may eliminate any item of work in the contract; however, prior to eliminating any item of work, the Engineer may wish to consult with the Division Engineer or the Division Construction Engineer. This article also provides that the Contractor shall be reimbursed for any work performed on an eliminated item prior to being notified of said elimination. The Engineer is responsible for being familiar with the work being performed such that the need to eliminate work can be identified as soon as possible. He is also responsible for notifying the Contractor of any eliminated items of work in a timely manner. Notification of eliminated work should be documented in the project diary and confirmed in writing to the Contractor.

The Contractor shall be reimbursed for the cost of materials which have been fabricated or partially fabricated for use in the eliminated work when such materials are not considered to be a stock item or for materials which have been delivered to the project for use in the eliminated item. The Engineer should consult with the Division Engineer or the Division Construction Engineer to determine if the Department has a need for the material and, if so, the location where the materials are to be delivered. Payment for delivered materials shall be in accordance with Article 109-6. If the Engineer determines the Department does not have a need for the materials, the Engineer should advise the Contractor that he is to retain possession of the materials and request that he furnish an invoice for the materials showing the cost of the materials including any transportation charges and less any discounts the Contractor received. The invoice shall also reflect any credit for the salvage value of the materials. Upon receipt of the invoice, the Engineer should verify that the salvage value allowed is reasonable and submit the invoice with his recommendation regarding payment to the Division Engineer for approval. See the Records and Reports section of this manual for the procedures for 'Payment for Leftover Materials'.

The Contractor shall be reimbursed for the verified actual cost of items of work that have been partially completed prior to notification of the elimination of the work. This actual cost shall not include profit or anticipated profit. Since the Contractor and the Engineer were not keeping detailed records of the cost of performing the eliminated work, the records submitted by the Contractor must be verified by the Engineer as being accurate based upon his engineering judgment. When the verified cost on the partially completed work is less than $5,000.00, the Engineer should make payment for the work on the next estimate. When the verified cost on the partially completed work is $5,000.00 or more, the verified cost records should be submitted to the Division Engineer for verification and approval prior to making payment for the work. The verified cost records should be submitted with the Final Estimate Assembly. See the Records and Reports section of this manual for the procedures for payment of partially completed items of work.

104-7 EXTRA WORK

Extra work is defined in Section 101-3 of the Standard Specifications. To determine if there is extra work, the Engineer must be familiar with the "Description of the Work" and "Measurement and Payment" as set forth in the Standard Specifications or the Special Provisions for the various bid items. The Engineer should never knowingly instruct the Contractor to perform extra work without advising him that the work is indeed extra work and establishing a basis of payment for the work.

Extra work may be developed as a result of circumstances including but not limited to the following: (a) omission of necessary bid items from the contract, (b) failure to include a basis of payment in the contract for work necessary to be performed under the terms of the contract, or (c) necessary plan revisions. When any of these circumstances occur, the Contractor and the Engineer should be alerted to the possibility of extra work being required. Compensation for extra work shall be made in accordance with Article 104-8. When the Engineer determines that extra work is warranted, he should determine if an extension of the contract time is warranted for performance of the extra work. See the Records and Reports section of this Manual for Supplemental Agreement procedures.

Approval is normally secured by the execution of a Supplemental Agreement. When work is to be performed on a force account basis as provided by Article 109-3, approval should be obtained prior to a force account notice being issued. The approval of the necessity for performing extra work and the cost of performing the work should be secured in writing from an individual authorized to approve a supplemental agreement for the work. This approval **must** be obtained before the Contractor is authorized to perform the work. If there is any question as to whether extra work is required, the Engineer should immediately consult with the Division Construction Engineer. In addition, after determining that the extra work is warranted, the Engineer should determine if a contract time extension is warranted by the required extra work.

104-8 COMPENSATION AND RECORD KEEPING

(A) COMPENSATION

When the Engineer and the Contractor agree compensation is due under the provisions of Articles 104-3 or 104-7, payment shall be as follows: (1) when the Engineer and the Contractor agree to the prices to be paid, such agreement shall be documented through the execution of a supplemental agreement; or (2) when the Engineer and the Contractor cannot agree to the prices to be paid, the Engineer should issue a force account notice and the affected work shall be performed as directed by the Engineer with compensation in accordance with Article 109-3. See the Records and Reports Section of this Manual for additional information regarding supplemental agreements and force account work.

(B) CLAIM FOR ADDITIONAL COMPENSATION

The Contractor is required to give written notice of intent to file a claim for additional compensation under the provisions of Articles 104-3 and 104-7. **Written notice of intent to file a claim shall include the following: (1) identify the project and plainly state that the document is notice of intent to file a claim; (2) specifically identify the affected work and provisions of the contract upon which the claim is based; (3) specifically state the Department's act or failure to act that is the basis for the claim; and (4) list all labor, equipment, materials, and overhead expenses that will be affected by the claim.** When the Contractor gives apparent notice of intent to file a claim and such notice does not provide the information specified above, the Engineer should immediately advise the Contractor to clarify the notice. **No exception** will be allowed to the requirement that **written notice** be given of intent to file a claim prior to performing the work. Verbal notice of intent is not acceptable and does not meet the requirements of the Specifications. Written notice will be required in all situations. A copy of each intent should be sent via e-mail to the Roadway or Bridge Construction Engineer.

The Contractor is required to submit separate records each week for each occurrence for which he has given notice of intent to file a claim. The Engineer should promptly check the Contractor's records and notify him of any difference between the Contractor's records and the Engineer's records. When the difference between the records cannot be resolved, the Engineer should document the cause of the difference. In addition, the Engineer should have his representative compare records with the Contractor's representative at the end of each day's operations and note in the diary any difference in the records. If the Engineer cannot verify the records within 7 days, the Contractor should be notified in writing that the records have been received but not verified. **In all cases, whether the records are verified or not, receipt should be acknowledged for each set of records received and the Contractor advised that receipt of records does not imply validity of the claim.** See the Records and Reports Section of this Manual for claim processing procedures.

If the Contractor chooses to pursue the claim after the disputed work is complete, he shall submit a written claim to the Engineer for an adjustment in compensation based upon his cost records within 120 calendar days after completion of the disputed work. **The claim shall be accompanied by a certification from an officer of the company or person authorized to execute supplemental agreements, stating that the claim is truthful and accurate.** The Contractor may submit a claim on the Contractor Claim Submittal Form (CCSF-1) located at the following web address.

https://connect.ncdot.gov/projects/construction/Pages/Construction-Resources.aspx

Claim correspondence for contract construction projects should be processed as follows:

- Include Contract Number and Claim Tracking Number on claims correspondence.
- Enter claim information in Claims Tracking (HiCAMS).
- The Division Engineer should follow the claim review process outlined in the Records and Reports section of this manual.

(C) COMPENSATION

The Engineer should keep detailed records regardless of whether the suspension is directed by the Department or alleged by the Contractor. Complete diary entries should be made concerning the affected work. In the event a claim is submitted by the Contractor as a result of an alleged suspension, records detailing labor, equipment, and materials for each operation will be available to verify or dispute the Contractor's contentions. The Engineer should promptly review records submitted by the Contractor and promptly notify him of any disagreement with his records. The Engineer should also evaluate the justifications submitted by the Contractor as to why the equipment cannot be absorbed into other work on the project and why the labor cannot be absorbed into other work on the project or on other projects. In addition, the Engineer should evaluate the anticipated duration of the suspension to determine if payment should be authorized for mobilization cost to allow equipment to be absorbed into work on other projects.

(D) NOTIFICATION OF DETERMINATION

Failure of the Engineer to notify the Contractor of his determination within the specified time shall result in payment of interest on any monies determined due from the request for adjustment in compensation. Therefore, it is important for the claims to be promptly reviewed by the Resident and Division Construction Engineers. See Records and Reports Section of this Manual for claim processing procedures.

If the Contractor fails to receive such adjustment in compensation as he believes he is entitled under the terms of the contract, he may resubmit the claim as a final claim upon completion of the project. A claim for additional compensation under the provisions of Articles 104-3, 104-4, and 104-7 can be **resubmitted** only as a part of the Contractor's final claim upon completion of the project.

104-10 MAINTENANCE OF THE PROJECT

The Contractor is required to maintain the project from the availability date or date of beginning work - whichever occurs first - until the project is accepted, except when a portion of the work is accepted as provided in Article 105-17.

Maintenance of the various items of work during the course of construction is important. Maintenance is also an inherent part of the work upon which the Contractor has based his bid. Accordingly, it is the Engineer's responsibility to require adequate maintenance of the project, and it is the Contractor's contractual obligation to perform the maintenance work as required in a timely and cooperative manner.

Adequate and continuous maintenance of the work will provide a great return to the Contractor and the Department. As an example, on grading projects, the Contractor who maintains adequate drainage will be able to effectively work more days than one who does not adequately maintain the project. Benefits realized by the Contractor are a decrease in the number of days lost to weather, which results in a net increase in days available to pursue the work, potential increase in project productivity, and the reduction/elimination of liquidated damages which have the potential to decrease the margin of profit for the Contractor.

There are maintenance operations required which are strictly "dead expense" items of work which are related to public safety and health issues. These include but are not limited to maintenance of drainage, removal, and disposal of dead animals and maintenance of pavements and surfaces over which public traffic passes. It is in these and similar areas of maintenance that

the work is most needed and, in some instances, the most difficult done by Contractor's forces. The need is derived from the fact that faulty or negligent maintenance in these areas result in inferior end products that possibly cannot be documented by normal means of measurement; however, they show up as hazards or inconvenience to the traveling public, damage to adjacent property and poor public relations which ultimately reduce the image and prestige of the Department. The Engineer's approach toward getting this work performed must be firm but tactful. If the Contractor fails to perform maintenance in time commensurate with the need, the Engineer may invoke the sanctions provided in Article 105-16 of the Standard Specifications. The procedure for invoking these sanctions are contained in Article 105-16 of this Manual.

When damage occurs to existing facilities as a result of the Contractor's operations, the Engineer must determine if the damage is due to the Contractor's negligence. For example, if the Contractor is crossing a road with off-road trucks which exceed legal weight limits and damages the pavement, repair will be performed at no cost to the Department. However, if the pavement is damaged by the Contractor hauling legal loads and repair is necessary, the Department should bear the cost of repair.

The Engineer should maintain open communications with other work units within the Department where the project is located and develop a contingency plan to manage emergency situations which require response during normal non-working periods. A complete listing of personnel available for emergency call back should be maintained by the Engineer and assigned project personnel to facilitate a prompt response to possible emergencies.

Specific guidelines for inspection of maintenance of the various items of work are included in the applicable divisions of this Manual and project personnel should assure that the Contractor adheres to these requirements. Continuous, effective maintenance often can prevent a minor maintenance problem from becoming a critical problem that requires emergency after-hours repair.

104-11 FINAL CLEANING UP

Prior to acceptance of the project, the Contractor shall remove all rubbish, excess materials that are to remain the property of the Contractor, temporary structures, and equipment from the highway right of way, borrow areas, and waste areas.

On resurfacing projects the Contractor will be required to remove all rubbish resulting from his operations. Rubbish includes chunks of asphalt generated from widening or patching operations, sod trimmings generated when the edge of pavement is cleaned for paving that may impair future maintenance of the facility, and any other debris which is a direct result of the resurfacing operation.

SECTION 105
CONTROL OF WORK

105-1 AUTHORITY OF THE ENGINEER

In accordance with Section 101-3 of the Specifications, "Engineer" is defined as the State Highway Administrator, acting directly or through his duly authorized representatives. "Authorized representatives" are all Department personnel involved in contract construction, performing their duties and responsibilities within the bounds as may have been delegated to them by their supervisors.

Each contract construction project is assigned to a Division Engineer who has the responsibility and is delegated the authority for the administration of the contract to the end that the Contractor performs the work in accordance with the terms of the contract. This responsibility and authority is subsequently delegated to an Engineer as is deemed necessary.

Division and Resident Engineers are delegated authority to approve extra work and the time extensions associated with extra work. See "Subcontracts" and "Supplemental Agreements and Requests for Construction Change" in the Records and Reports Section of this Manual for a detailed explanation of these authority levels.

Representatives of the Construction, Traffic, and Roadside Environmental Units are experts in their particular field and will periodically visit the projects in their area. They are available for consultation with construction issues and contract administration. In making these inspections, they may have recommendations for the Engineer and his inspection staff. The Area Representative does not take any authority or responsibility away from the Engineer for direct administration of the contract; however, the Roadway Construction Engineer and the Bridge Construction Engineer have been delegated the authority to stop any or all work by issuing a written order should they determine that the Contractor is violating the terms of the contract requirements for safety or erosion control, and the Division's representative or the Contractor fails to take corrective action as suggested.

The Engineer is a representative of the State Highway Administrator by delegation from the Division Engineer. As such, it is the responsibility of the Engineer to see that the project is constructed in accordance with the terms of the contract and to administer assigned work in accordance with the terms of the contract.

The word "contract," as defined by Section 101-3 of the Specifications, includes the proposal form, the printed contract form and all attachments thereto, the contract bonds, the plans, the Standard Specifications and all Supplemental Specifications thereto, the Standard Special Provisions and Project Special Provisions contained in the proposal form, and all executed supplemental agreements. The Engineer shall carefully study all components of the contract and their relationship to actual field conditions. If he does not thoroughly understand any provision of the contract or if any provision of the contract appears to be in error, he shall request clarification from the Division Engineer. It is not possible for the Engineer to exercise the "authority of the Engineer" as set forth in Article 105-1 without being thoroughly familiar with the terms of the contract.

The Engineer has the authority to alter the terms of the contract through a supplemental agreement as previously noted. The Engineer, with appropriate consultation with the Division Engineer, has the authority to modify quantities, plan details, etc.; however, it is expected that before making significant modification to plan details, etc., appropriate consultation will be made with the Design Unit and others as may be appropriate. The Division Engineer shall

consult with the State Construction Engineer when significant modification is made in quantities that
significantly change the cost of the project or affect the design, i.e., change in undercut excavation, borrow, excavation, or subgrade stabilization. In most instances, project plans include designs and details of construction that were placed in the contract for specific reasons and they should not be altered without sufficient justification and review to determine that the integrity of our design has not been affected. This requires experience and technical knowledge in most instances and is not a responsibility to be taken lightly. The Roadway Construction Engineer and Bridge Construction Engineer are available to assist the Engineer if these instances arise.

As long as the Contractor's plan and method of operation are in accordance with the terms of the contract and the end product is as specified in the contract, the Engineer does not have the authority to require the Contractor to change his plan and/or method of operation. If, however, the Contractor's plan and/or method of operation or the end product are not in conformance with the terms of the contract, the Engineer does have the authority to instruct the Contractor to cease operations, either in part or whole, by written order. Refer to Article 108-7 of this Manual.

In exercising his authority, the Engineer must at all times refrain from being arbitrary in his decisions. His decisions must be based upon due deliberation and at all times within the framework of the contract.

105-2 PLANS AND WORKING DRAWINGS

The Specifications and certain contract provisions require the Contractor to submit varying numbers and types of working drawings and submittals to supplement the plans. With the exception of certain structural items, these required submittals shall be submitted directly to the Engineer for his further handling. Upon receipt of a submittal, the Engineer shall stamp the date received on the cover letter and each part of the submittal. **The Submittal Tracking Form shall then be attached to the submittal package**. After performing an initial review of the submittal to ensure that it is complete, the Engineer shall fill in the following information on the Submittal Tracking Form:

1. **Project Number** - Both the WBS element and TIP numbers should be used.
2. **Submittal** - a brief description of the submittal
3. **Division Engineer**
4. **Resident Engineer**
5. **Telephone Number** - the Resident Engineer's telephone number
6. **Reviewing Unit** - The unit that is responsible for the review and acceptance and/or approval of the submittal. The following list gives the reviewing unit for the most common types of submittals.
7. **Contractor** - The Contractor and Subcontractor, if applicable, should be listed.
8. **Date Received From Contractor** - The date should match the date stamped on the submittal.
9. **Date Transmitted to Reviewing Unit**
10. **Turnaround Time and Deadline Date** - Unless specified otherwise in the Project Special Provision, the maximum turnaround time is 40 days. The deadline date is the date which the Engineer must receive the reviewed approval back in his office in order to prepare the letter of transmittal back to the Contractor **and allow for mail delivery time**. The Engineer should develop a system to alert him of impending

deadline dates so that the reviewing unit may be contacted to obtain the current status of the submittal.

The Engineer shall transmit the submittal package to the reviewing unit together with any pertinent comments. Upon receipt of the submittal package, the reviewing unit will fill in the appropriate dates in Part II of the Submittal Tracking Form.

For those submittals which are sent directly from the Contractor to the design unit, the reviewing unit will attach a Submittal Tracking Form. The reviewing unit should utilize the remarks section of the form to document any telephone conversations regarding the submittal. Dates when additional information is requested and received should also be documented in the remarks section. The reviewed submittal package will be transmitted to the Engineer with a copy of the memorandum to the Division Engineer. Upon receipt of the package, the Engineer will complete Part III of the Submittal Tracking Form, prepare a letter of transmittal to the Contractor, and attach the completed Submittal Tracking Form to the file copy of the letter.

This Page Left Blank Intentionally

SUBMITTAL TRACKING

PART I

WBS ELEMENT AND TIP NUMBER: _____

SUBMITTAL TYPE: _____

RESIDENT ENGINEER: _____

TELEPHONE NUMBER: _____

DIVISION ENGINEER: _____

REVIEWING AUTHORITY: _____

CONTRACTOR: _____

DATE RECEIVED FROM CONTRACTOR: _____

DATE TRANSMITTED TO REVIEWING UNIT: _____

THIS SUBMITTAL HAS A TURNAROUND TIME OF _____ DAYS. IN ORDER TO MEET THIS DEADLINE, THE RESIDENT ENGINEER MUST RECEIVE THE REVIEWED SUBMITTAL BY _____.

REMARKS (RESIDENT ENGINEER): _____

_____

_____

_____

_____

PART II

DATE RECEIVED BY REVIEWING UNIT: _____

DATE TRANSMITTED TO RESIDENT ENGINEER: _____

REMARKS (REVIEWING UNIT): _____

_____

_____

_____

_____

PART III

DATE RECEIVED FROM REVIEWING UNIT: _____

DATE RETURNED TO CONTRACTOR: _____

INSTRUCTIONS FOR COMPLETION OF SUBMITTAL TRACKING FORM (Form ST-1)

1. Upon receipt of a submittal from the Contractor, the Resident Engineer shall stamp the date received on the cover letter and each submittal and attach a Submittal Tracking Form to the submittal package. THE FORM SHALL REMAIN ATTACHED TO THE SUBMITTAL PACKAGE THROUGHOUT THE REVIEW PROCESS.

2. The Resident Engineer shall perform a review of the submittal to ensure that it is complete.

3. The Resident Engineer shall complete information listed in part I on the Submittal Tracking Form.

4. The Resident Engineer shall transmit the submittal package to the reviewing unit by memorandum. In cases where there is an urgent need for review, the Resident Engineer may consider delivering the submittal package or sending an advance facsimile of the submittal package followed by the original through the usual mail service.

5. The reviewing unit shall perform a review of the submittal and fill in the appropriate dates in part II on the Submittal Tracking Form. The remarks section of the form should be utilized to document dates when additional information is requested and received. The reviewing unit shall transmit the submittal package to the Resident Engineer by copy of the memorandum to the Division Engineer.

6. The Resident Engineer shall fill in the appropriate dates in part III on the submittal Tracking Form and prepare a letter of transmittal for the return of the submittal to the contractor. The Submittal Tracking Form shall be attached to the copy of the transmittal letter.

105-3 CONFORMITY WITH PLANS AND SPECIFICATIONS

The Specifications provide that the Contractor shall perform the work contemplated within reasonably close conformity with the details shown on the plans or in the Specifications. It also provides, that in the event, the work is not found to be in reasonably close conformance with the requirements, the Engineer may either accept or reject the work depending upon whether, in the Engineer's judgment, the completed work will satisfactorily perform its intended function.

The decision to accept or reject the non-conforming work is made by the State Construction Engineer in order to have uniform application of this type of judgment. If accepted, the adjustment to be made in the contract price is determined by the State Construction Engineer. Others may be called upon to make appropriate recommendations.

This article of the Specifications does not require that a supplemental agreement be executed to affect a reduction in the contract price. The reduction will be made in the next partial payment estimate as a PAR in HiCAMS following the decision rendered by the State Construction Engineer.

105-4 COORDINATION OF PLANS, SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS, AND SPECIAL PROVISIONS

Refer to this section of the specifications for the hierarchy of contract documents.

105-5 COOPERATION BY CONTRACTOR

This article sets forth the time limitations for the Contractor's notification to the Engineer as to when he proposes to begin work on the project, suspend work, and resume work. The Department should make every effort to accommodate the Contractor's plans to begin or resume work although the specified notice was not given. In the event the Contractor fails to follow these requirements, the Engineer shall bring this to the attention of the Contractor in writing, setting forth any delays that might have been caused by the Contractor's failure to follow the provision(s). Delays resulting from the Contractor's failure to provide the required notice is not considered justification for extension of the completion date.

105-6 SUPERVISION BY CONTRACTOR

This article requires the Contractor to have a competent employee to manage and supervise the work on the project at all times work is being performed. This supervisor is to be an employee of the Contractor unless otherwise requested in writing and approved by the Engineer. The Engineer, Technician, and other Department representatives shall address this individual relative to any phase of the work. All instructions directed toward work being performed by subcontractors or employees of the Contractor shall be transmitted through the Contractor's delegated supervisor.

A problem in implementing the provisions of this article typically occurs when all or the major portion of current work is being performed by Subcontractors. At any time when the Contractor is not complying with this provision of the Specifications, the Engineer shall notify the Contractor, in writing, giving the Contractor reasonable notice to provide the required supervision. If the Contractor fails to provide the requested supervision within the time limit specified, the Engineer has the authority to suspend the work. Prior to issuing the suspension order, the Engineer shall consult the Division Engineer. See Article 108-7 of this Manual.

105-7 COOPERATION BETWEEN CONTRACTORS

The Department has the right to let a project under more than one contract. Under these conditions, it is the Contractors' responsibility to cooperate with one another to the extent that each Contractor can proceed with his individual work without hindrance by the other. The Department is not liable for any damages caused one Contractor by another.

In this same connection, however, Article 105-1 of the Specifications does impose some responsibility upon the Department to take all reasonable steps to see that the Contractors cooperate with one another and that they properly coordinate their work. In the absence of a construction schedule in the contract, reasonable steps to be taken would include but not be limited to the following:

1. The Engineer shall advise the appropriate Contractor in writing of his action or inaction which may result in delays to another Contractor. This correspondence may also include suggestions as to steps necessary to remedy the situation.
2. Actions similar to those in (1) above may be taken during construction conferences and documented in the minutes.
3. Verbal suggestions may be made to the Contractor's supervisory personnel on the project; however, these conversations shall be documented in the diary and confirmed in writing to the Contractor.

Note that in all items above, the Engineer should **suggest** changes in the Contractor's plan of operations and is not authorized to **direct** the Contractor's operations.

When a project is let under separate contracts and the contracts include a construction schedule, this article provides that the Contractors must complete the various phases within the time limits set forth in the construction schedule; except that, at the Contractor's option, they may submit a joint construction schedule for approval by the Engineer. Upon approval by the Engineer, the joint construction schedule supersedes that construction schedule in the original contract and the Contractors must complete the various phases within the time limits specified in the joint construction schedule. Since the original contracts will normally include an intermediate contract time for completion of portions of the work or an availability date for portions of the work, changes in the schedule may require the execution of a supplemental agreement to modify one or more of the contracts.

When the contracts do not contain intermediate contract times or a specified availability date for all or portions of the work that would be affected by the schedule changes, the following procedures should be used.

1. The construction schedule shall be thoroughly reviewed during the preconstruction conference.
2. When a phase is completed within the time specified, the Engineer should notify each Contractor in writing.
3. When it becomes apparent that a phase of work is not going to be completed on schedule, the Engineer shall notify each Contractor by letter, advising the dilatory Contractor of the sanctions provided in Article 105-7 of the Specifications and the provisions providing for a joint construction schedule.
4. When a phase of the work is not completed on schedule, the Division Engineer should submit a report of the work status to the State Construction Engineer. This report shall include any circumstances beyond the Contractor's control which may justify the late completion of the phase and be justification for not removing the dilatory Contractor from the list of prequalified bidders. If there are no apparent extenuating circumstances, the

report shall include the Division Engineer's opinion why the phase of work was not completed on schedule. The final decision relative to the removal of the Contractor from the list of prequalified bidders shall be made by the State Construction Engineer.

5. If the Contractors elect to submit a joint construction schedule, the following procedures shall be followed:
   a. The schedule shall be submitted to the Resident Engineer in quadruplicate.
   b. The schedule shall be reviewed by the Resident Engineer and Division Engineer.
   c. A copy of the schedule together with a recommendation for approval or disapproval shall be submitted to the State Construction Engineer.
   d. Approval or disapproval of the schedule shall be made by the State Construction Engineer. If approved, copies shall be distributed to appropriate parties. If disapproved, all copies shall be returned to the Division Engineer.
   e. The Engineer should notify both Contractors as to whether the joint construction schedule is approved or disapproved.

105-8 COOPERATION WITH UTILITY OWNERS

Very few projects are constructed without conflict with some public or private utility. These utilities may consist of electric power, telephone, television, water, sewer, gas, oil, petroleum products, steam, railroads, or chemical lines. These utilities serve the public with necessities and conveniences in the same manner that a highway serves as a means of transportation. It is necessary that utility adjustments be handled expeditiously and with caution, safety, and a full knowledge of all conditions involved.

Utilities often need to be removed from highway right of way; however, the General Statutes require the Department to allow utility companies and municipalities to encroach on the highway right of way to construct and maintain their utility facilities either underground or overhead. See Article 107-5 of this Manual.

On active construction projects, it is the responsibility of the State Utility Agent to administer the adjustment and relocation of all utility conflicts. This responsibility includes determining utility right of way status; conducting on-site utility inspections; providing the company or municipality that owns the utility (hereinafter UTILITY) with appropriate highway plans; obtaining all necessary utility agreements, estimates and plans; coordinating activities with other units within the Department; obtaining necessary approvals of the Federal Highway Administration; and making proper authorization to the UTILITY for the adjustment and relocation of utilities to accommodate highway construction.

When the UTILITY is authorized to begin work, the Engineer will receive a copy of the authorization letter along with applicable copies of agreements, plans, and estimates. The Engineer should schedule a utility preconstruction conference to discuss the work and when the work will be commenced so that proper records can be maintained. Any work done by the UTILITY prior to authorization may be ineligible for reimbursement.

The approved Utility Relocation Agreement indicates whether utility relocations are to be made by the utility company's own forces, by continuing contract, by a contract let to bid, or a combination of these. If a Contractor for the UTILITY arrives on the project to perform relocations and the agreement indicates that the work will be performed only by the UTILITY's forces, the State Utility Agent should be notified immediately since all contract work must have prior approval by the Department. If any major changes are needed on the approved relocation plans, these changes need to be approved by the State Utility Agent.

Although records are not normally required to be kept by the Engineer on utility moves made without expense to the Department, the Engineer is to be familiar with the work being performed on this basis and is to enter into the project diary any delays to the Contractor due to utility work as such delays may be considered for the possible extension of the completion date.

CONTRACTOR'S RESPONSIBILITIES

In accordance with this article of the Specifications, the Contractor is required to:

1. Thoroughly investigate the effect of required utility work, whether indicated on the plans or not, on his plan of operation prior to preparation of his bid and to include in his bid any additional resulting cost.
2. Notify NC One-Call center (telephone 1-800-632-4949) and any non-subscribing UTILITIES prior to performing excavation as required by GS 87-100. NC One-Call center will notify all subscribing members of the proposed excavation.
3. Use special care and, where necessary, provide protection for existing utilities when working around or near same.
4. Cooperate with the UTILITY or the UTILITY's agent when utility adjustments are made necessary by the construction of the project.
5. Promptly notify and cooperate with UTILITY in restoring utility service when same is interrupted due to the Contractor's operations.
6. Maintain access to all fire hydrants within the confines of the project.
7. Pay for all temporary utility adjustments made solely for his convenience.

This article also provides that the Contractor will not receive any additional compensation for delays, inconveniences, or damages as might be caused by utility adjustments and/or construction except as provided for in Article 104-4. This provision, however, does not preclude payment for extra work as might be necessitated by utility work or extensions of the completion date(s) as may be allowed by Article 108-10.

RESPONSIBLITY FOR RELOCATING UTILITIES

Relocation of conflicting utilities in a timely manner is necessary to minimize delays to construction and possible claims for additional compensation. To accomplish this goal requires all parties to understand and fulfill their responsibility in the relocation of utilities. .

RESIDENT ENGINEER'S UTILITY RELOCATION PROCEDURE

UTILITY RELOCATION FLOWCHART

(90 weeks to 43 weeks prior to Letting Date)

Final Right of Way plans are completed and the Utility Agent starts the process to clear any conflicts. He meets on the project with all utility companies that have potential conflicts and they look at all areas that are potential conflicts with construction. The Utility Agent will give the utility company a copy of the roadway plans so they can begin work on their Relocation Package.

(27 weeks to 22 weeks prior to Letting Date)

The Relocation Package is needed from the utility company. The Relocation Package consists of the following: (1) 3 sets of Relocation Plans, (2) Utility Relocation Agreements/Encroachment Agreements, (3) 2 itemized cost estimates, If the package is complete, then the authorization to relocate is approved in approximately 2 weeks. This authorization is still subject to right of way acquisition. The Utility Agent is working with the Division Right of Way Agent to ensure all right of way is acquired before the authorization is sent to the Resident Engineer.

(22 weeks prior to Letting Date)

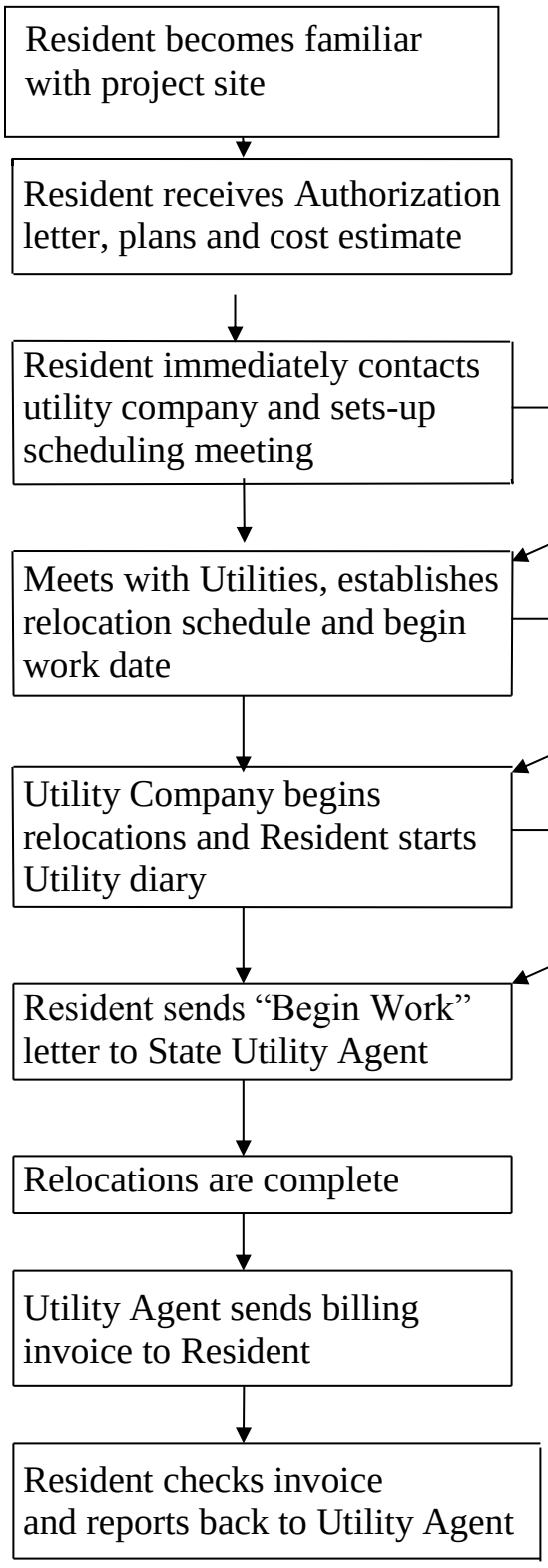
Utility plan data is sent to the Utilities Unit, and the Project Special Provisions are written concerning the utility relocations.

(14 weeks prior to Letting Date)

The Utility Agent will contact the Resident Engineer to give an update concerning the utility conflicts and utility authorizations. If the utility company has been authorized to relocate, the Resident Engineer should communicate any problems or concerns for potential delays to the Utility Agent. This will allow the Utility Agent adequate time to voice our concerns to the utility company to help avoid future delays to the Highway Contractor.

(8 weeks prior to Letting Date)

The Utilities Unit Area Agent will review with the Utility Agent the progress of the utility relocations. They will discuss if any time needs to be added to the Proposals to relocate utility conflicts during construction. Any decision to add time to the proposals will be based on the following: (1) utility impact to the project, (2)Authorization status for utility relocations, (3) Right of way problems, (4) Permits, (5) Resident Engineer's recommendations, (6) Latest information from the Utility Company concerning construction schedules. This is a very critical date, and the Resident Engineer must have the latest information of what has been accomplished on the project. This is the final date that any time changes can be made in the Proposal concerning the utility relocations.



NOTE: If utility work will delay contract availability, contact State Contract Officer.

State Utility Agent
(919) 707-7191

State Contract Officer
(919) 707-6900

The following is a listing of the procedures to be used in the clearance of utility conflicts on construction projects.

1. The State Utility Agent will obtain all necessary agreements, estimates, and plans for the adjustments and/or relocation of each utility.
2. The State Utility Agent will issue a written authorization to the UTILITY for the adjustment and/or relocation of the utility. **The UTILITY will be informed in the letter of authorization not to proceed with the work until contact is made by the Division Engineer or his representative.**
3. When the UTILITY is authorized to adjust and/or relocate the utility, the State Utility Agent will transmit to the Division Engineer by cover letter, a copy of the letter of authorization, along with copies of the agreement, plans, and estimate for performing the work.
4. **Upon receipt of the authorization, the Division Engineer or the assigned Engineer should immediately contact the UTILITY and schedule a meeting. In this meeting, a defined schedule should be determined for the UTILITY to clear the conflict. The initial contact, the schedule, and any agreements made should be documented in writing to the UTILITY.**
5. If the Engineer cannot determine a reasonable schedule with the UTILITY to clear the conflict in a timely manner and not impact construction, the State Utility Agent should be contacted for assistance. The Engineer should document the matter in the project records.
6. If a reasonable schedule is determined and the UTILITY has not begun the adjustment and/or relocation within 10 days from the date specified, the State Utility Agent should be contacted for assistance. Every effort should be made by the Engineer to persuade the UTILITY to commence clearing the conflict prior to contacting the State Utility Agent. These efforts should be documented by the Engineer in the project records.
7. The Engineer should follow the procedures outlined below for monitoring the UTILITY's work and keeping appropriate cost records of the work performed.
8. The Division Engineer should establish a tracking system in the Division Office for monitoring each conflict to ensure its clearance is being actively pursued by the Engineer, the UTILITY, and the State Utility Agent.
9. The Division Engineer or his representative will be requested to furnish certain information on utility conflicts as a part of the final field plan review. This will include a listing of each utility owner and the status of the authorization for utility adjustments by the Utilities Coordination Unit.

In conclusion, it is fully the intent of the Department to clear utility conflicts by the contract availability date or as soon thereafter, as is practical, in order to complete projects in a timely manner and minimize the exposure to potential claims.

Upon receipt of utility data from the State Utility Agent, the Engineer should study the proposed location or relocation of utility installations for possible conflict with plan grades, alignment, drainage construction details or other interference with planned construction, and should become familiar with all areas where moves must be coordinated with construction operations. It may be necessary upon request of the UTILITY to provide centerline stakes, right of way stakes, or in some instances, construction limits stakes for the UTILITY.

In his initial contact with the representatives of the UTILITY, the Engineer should call attention to the fact that he must verify the work performed, materials used, and

materials salvaged prior to reimbursement to the company, and request their cooperation in obtaining accurate and correct information for his records. Unduly poor cooperation should be reported, in writing, to the State Utility Agent.

NOTIFICATION OF WORK BEGUN

The Engineer is to notify the State Utility Agent by letter of the date on which a UTILITY begins the actual work of removal or relocation and the date of completion. This notification is required for each UTILITY involved.

PROJECT PRECONSTRUCTION CONFERENCE

After the award of the project construction contract, the Engineer establishes the date for a preconstruction conference to be held with the Contractor. The State Utility Agent is to be notified of the date and location of this meeting if utility conflicts are involved. The UTILITIES should be requested to have a qualified representative in attendance. On projects with "heavy" utility involvement, the Engineer may wish to conduct a separate utility preconstruction conference. When such conferences are held, a knowledgeable representative of the Contractor should also be present. The problems of the UTILITY in coordinating their work with the Contractor's proposed construction schedule should be thoroughly discussed and, if possible at this meeting, a satisfactory solution reached. If the project is of such magnitude and is located in a highly developed urban area or involves complex utility structures, arrangements should be made for additional conferences to be held as the work progresses.

Several major items which should be discussed with the UTILITY representatives at the conference are:

1. The Engineer should call attention to his responsibility in maintaining records of the work performed for use in verification for reimbursement and request their cooperation.
2. Requirements for advance staking for the utility work should be discussed and definite locations and sequences should be established. The benefits gained by avoiding future conflicts between the utilities and proposed highway construction will outweigh the effort spent to assure utilities are placed at the proper location.
3. The utility representative's attention should be called to the necessity for proper compaction of backfill around and over underground installations, the use of suitable material (not wet) for such backfill, and the possibility of the use of roadway density equipment to check this operation.
4. The UTILITY’s attention should be directed to the fact that relocations made by them without attention to planned placement of project drainage may result in additional moves at the expense of the UTILITY.
5. When proof rolling of the subgrade is required, the UTILITY should be cautioned as to the possibility of damage to their underground installations by this operation. **Proof rolling cannot be omitted without permission, in writing, from the State Construction Engineer.**
6. The UTILITY should be advised that all underground installations beneath pavements are to be completed prior to the placement of the final layer of pavement and that all patches made will consist of the full complement of base and paving in their proper order and with proper compaction.

7. The UTILITY should be advised that all overhead installations must conform to Department policy and any questions are to be referred to the State Utility Agent.
8. An understanding should be reached as to the manner and frequency of inspection of salvage material. This may be accomplished on a daily basis on the site or at longer intervals in stockpiles.

INSPECTION OF UTILITY WORK

It is the responsibility of the Engineer to assign one or more Technicians to observe and record the utility construction in progress. It is desirable that this Technician have some previous experience in inspecting similar utility construction. The Engineer should discuss the utility plans with the Technician and make him aware of any and all decisions about work sequences, etc., which may have been previously decided. The Technician is to see that the utility construction is done in accordance with the utility plans, and it is desirable that he keep an up-to-date set of project plans noting the final locations of utilities adjusted. This will eliminate a great amount of work in the preparation of the as-constructed plans. The Technician will also keep a daily Technician's Diary of the work to be submitted and entered into the Engineer's Utility Diary.

UTILITY DIARIES

The Engineer will keep a diary on all construction projects for each UTILITY making adjustments or relocations at the Department's expense. This may be a single diary incorporating the work performed by all UTILITIES or it may be a single diary for each UTILITY performing work, depending upon the complexity and volume of utility work to be performed. A diary is not necessary for UTILITIES moving facilities at their own expense except that the Engineer is to be familiar with all adjustments of this nature and should enter into the project diary documentation of the UTILITY's activities and any information relating to delays to the Contractor caused by such utilities, as such delays may be considered justification for an extension of the contract time. If any portion of the utility relocation is at the Department's expense, a diary is to be maintained on that portion. The approved Utility Relocation Agreements and/or plans will indicate what part of the work will be at the Department's expense and what part of the work will be at the expense of the UTILITY. In the event this information is not clear, the Engineer should contact the State Utility Agent.

The diaries should start the day the UTILITY is authorized to begin work and entries made in the diary each day that the UTILITY performs work. The utility diary should be kept in the same manner as any other project diary consisting of dates, weather conditions, the company performing the work including any Contractors doing work for the UTILITY, the nature of the work, any field changes made and the authorization for the changes, any special instructions, any conditions which will tend to delay or effect the work, and any other information that is in direct relation to the reimbursable cost.

If the UTILITY is performing work with its own forces, then the diary should reflect information as to man hours and equipment hours of operation, material installed and/or removed, description of the operations, and salvage material when this information is available. At no time should the Engineer or his Technicians inquire as to wages paid to the UTILITY or Contractor employees.

If the work is being performed by the UTILITY's Contractor on a unit price basis, then the Engineer will record only units being removed and installed. Information on

man hours and equipment is not necessary in this case since the Department will be billed on unit prices only. The UTILITY should notify the Engineer when work is to be performed that is not on a unit price basis.

If the approved Utility Relocation Agreement provides for a lump sum reimbursement, the Engineer will make entries in his diary in the same manner as for contract work by unit prices. Under this type of an agreement, the Engineer should ensure that the work is being performed in accordance with approved utility plans and should note any modification in the event there is a change in the Utility Relocation Agreement. Upon receipt of the UTILITY invoice, the Engineer is verifying that the work has been performed in accordance with the plans. The invoice amount will be verified by the State Utility Agent.

In keeping the utility diary, the Engineer is not expected to have a detailed account of all pieces of hardware that might be used; however, the diary is expected to show major components of material and have sufficient information to reasonably check the UTILITY'S invoice.

The utility diary or diaries are to be held by the Engineer for reconciliation with invoices submitted by the UTILITY upon completion of the work. When all the invoices have been submitted by the UTILITY and the approval for payment has been given by the Engineer, the utility diary or diaries are to be forwarded to the State Construction Engineer with the final estimate assembly.

CHANGES IN UTILITY PLANS

There will be many instances where it will be necessary to modify utility installations from what is shown on the approved utility plans. If these changes are of a minor nature that will not adversely affect the construction project and will not appreciably change the cost of the relocation, then the Engineer may authorize such changes and make proper entries in his diary to reflect same. If there are changes in the scope of work, extra work, or major changes that will appreciably affect the approved agreement, plans, and estimates, then reimbursement will be limited to cost covered by a modification of the agreement or a written change or extra work order approved by the State Utility Agent and, where applicable, the Federal Highway Administration. When changes of this nature do occur, the Engineer should contact the State Utility Agent for handling. In emergency situations, modifications may be handled by telephone between the Engineer and the State Utility Agent and confirmed in writing.

DELAYS BY UTILITY WORK

Since having all utility adjustments made as stated in the contract documents is the responsibility of the Department and since delays to the Contractor due to utilities not being cleared may in some cases be considered as the basis for additional compensation and/or an extension of the completion date, it is the duty of the Engineer to make every effort to expedite the removal or adjustment of the utilities at the earliest possible date.

On projects in highly developed areas, regular conferences held between the Engineer, the representatives of the UTILITY, and the Contractor are recommended.

If during the performance of the work on the project, the Engineer observes that progress on the utility work is not being carried out at a pace or at locations such that delays may be encountered in construction operations, he should immediately contact the UTILITY involved and request that alterations in schedules be made to clear the

conflicting area. **Should the UTILITY fail to cooperate with the Engineer's request and a delay to the work is eminent, the Engineer shall notify the State Utility Agent giving full details on the conditions and requesting assistance in clearing the conflict at the earliest possible date.**

If a delay in contract construction operations does occur, it is the duty of the Engineer to determine and properly document the beginning date of the conflict, to what extent the Contractor's operations are delayed (e.g. equipment, labor, etc., idle or moved to other work due to the conflict), actions taken to clear the conflict, and the date the Contractor is advised that operations can be resumed in the area. This information should be entered in the Engineer's project diary to document a recommendation for or against an extension of contract time.

INSPECTION OF SALVAGE MATERIALS

Materials recovered on construction projects in suitable condition for reuse by the UTILITY are returned to stock and credited to the cost of the work. Materials recovered which are not considered to be suitable for reuse by the UTILITY are disposed of by sale or scrap.

Where materials are of a non-reusable nature, the Department shall have the right to inspect recovered materials prior to disposal by sale or scrap. This requirement will be satisfied by the UTILITY giving written notice or oral notice, with written confirmation, to the Department of the time and place the materials will be available for inspection. This notice is the responsibility of the UTILITY who may be held accountable for full value of materials disposed of without notice. It will be the responsibility of the Engineer and the Utility Agent to inspect this material at the time and place designated by the UTILITY and record in the utility diary the results of the inspection.

The Engineer shall record in his diary a listing of major components of the materials recovered which he has inspected including his findings as to such materials being unsuitable for reuse and whether the materials are to be disposed of by sale or scrap. If there are materials to be scrapped, which, in the opinion of the Engineer and the Utility Agent would have some resale value, the diary should contain this information and written notice should be given to the State Utility Agent

The dollar value of the materials recovered and found to be unsuitable for reuse is negligible on many of the utility adjustments. There are adjustments where such materials represent considerable value; therefore, it is considered advisable to point out that the scope of the inspection and degree of documentation should be commensurate with the dollar value of the materials involved.

UTILITY BILLS

A UTILITY may submit a progress or partial billing based upon the estimated percentage of the work performed, not to exceed 95% of the total estimated cost. When the UTILITY has completed all work for which reimbursement is to be made, the UTILITY will submit to the State Utility Agent a detailed invoice indicating the total cost of the work. This invoice is forwarded to the Engineer to be checked against the information contained in the utility diary. It is important that the diary contain sufficient information to reasonably verify the invoice items. If there are major items shown on the invoice which cannot be reasonably substantiated by the Engineer's records, he is to

advise the State Utility Agent, in writing, of any discrepancies or known justification for discrepancies.

105-9 CONSTRUCTION STAKES, LINES, AND GRADES

Unless otherwise required by the contract, construction stakeout shall be performed by the Department or its agent. It is the Department's policy that in roadway operations, the Department
will establish clearing limits, profile grades, and set slope stakes, line and grade stakes for all drainage structures and ditches, subgrade, and/or finished grade blue-tops, and any other stakes considered necessary by the Engineer for the Contractor to satisfactorily complete the work.

In bridge and reinforced concrete box culvert operations, it is the Department's policy to establish all lines and grades necessary for the construction of the structure that requires the use of a surveying instrument to establish said lines and grades. It is the Contractor's responsibility to work from these established controls to perform all necessary layout of the structure. The Department shall not perform, supervise or direct the work of laying out form lines, establishing pile locations, etc., as this work is the responsibility of the Contractor.

It is the Contractor's responsibility to guard and preserve all controls established by the Department. If the Contractor fails to do this and said failure and negligence on the part of the Contractor results in their destruction, the Engineer shall so advise the Contractor in writing. If, after this written notification, the Contractor continues to destroy the controls, the Engineer shall advise the Contractor in writing that he is keeping cost records of replacement costs and that these costs shall be deducted from monies due the Contractor. Prior to the latter notification, the Engineer shall consult with the Division Construction Engineer.

Prior to beginning the stakeout of any phase of the work, the Engineer, Party Chief, and Contractor's supervisory personnel shall have a mutual understanding as to how the phase is to be staked. In particular, it shall be made clear to the Contractor as to the meaning and interpretation of said marks. These discussions with the Contractor's personnel shall be documented in the project diary.

It is absolutely necessary that the construction stakeout be coordinated with the Contractor's plan of operations. This requires a cooperative attitude on the part of both parties. Prior to or during the preconstruction conference, the Contractor should advise the Engineer as to his proposed sequence of operations. As the work progresses, the Contractor should advise the Engineer with adequate notice as to any changes that are to be made in the original plan. If the Engineer does not feel he is adequately advised as to the Contractor's plan of work, he shall write the Contractor requesting a written breakdown of the Contractor's planned operations by phases, locations, and times. With this information, the Engineer shall coordinate and plan the stakeout operations such that the Contractor's operations will not be delayed due to a lack of stakes.

It is suggested that only one designated representative of the Contractor, usually the Superintendent, be allowed to request stakes of highway personnel. This will assure that the Contractor is aware of all staking needs such that the most critical stakes can be placed first and will provide the Prime Contractor with a set method to coordinate various Subcontractor's staking needs. It is recommended that a “Staking Request Form” be given to the Contractor at the preconstruction conference. The Contractor should submit the forms indicating a staking sequence.

105-10 AUTHORITY AND DUTIES OF THE TECHNICIAN

The Engineer shall delegate the authority to inspect all or any part of the work and any materials incorporated into the work. These individuals shall be made known to the Contractor's representatives by the Engineer such that there will be no misunderstanding as to the authority of the individuals. The purpose of this inspection is to provide documentary assurance that the work and materials are in conformance with the terms of the contract.

The Technician shall bring to the Contractor's immediate attention any work or material that is not in conformance with the contract provisions. If the Contractor fails to take corrective action, the Technician has the authority, if delegated by the Engineer, to stop the Contractor's operations by a written order. Such written order does not have to be in typed letter form but may be handwritten and delivered by hand to the Contractor's supervisory personnel. Such orders shall list the reasons for work stoppage. A copy of this order shall be retained by the Department's representative. A blank sheet in the diary is an excellent place to write the order, so a copy will be retained by the Technician. .

In the event a work stoppage order is issued by the Technician, he shall immediately contact the Engineer. The Engineer shall promptly make an on-site investigation and take such actions as are necessary.

The Technician does not have the authority to supervise or direct the Contractor's operations; in fact, **he shall not do this**. It is the Contractor's responsibility through his supervisory personnel assigned to the project to direct the operations of his forces. This is in accordance with Article 105-6 of the Specifications.

The Technician does not have the authority to operate the Contractor's equipment, set, move, or tamper with gauges, dials, feeds, and the like. In accordance with Article 108-5 of the Specifications, it is the Contractor's responsibility to furnish sufficient workmen, methods, and equipment to complete the work in accordance with the terms of the contract.

It is the responsibility of the Engineer to see that individual Technicians are thoroughly familiar with the contract requirements and certified for the various phases of work which they are called upon to inspect. He shall also make certain that each Technician fully understands his limits of responsibility and authority as may be delegated by the Engineer. As in all other organizations, Department inspection personnel have varying degrees of experience and qualifications. The Engineer must become knowledgeable of his Technician's abilities such that he may delegate authority to the Technician commensurate with his proficiency and knowledge of the contract provisions and construction procedures.

There shall be maintained on the project at all times a set of plans, copy of the Standard Specifications, and a bound copy of the contract including Project Special Provisions and Standard Special Provisions and Permits. It shall be the duty of all Technicians to study the contract requirements relating to the job they have been assigned and they must be familiar with all the details of the work to be done.

The Technician shall maintain all records and reports in accordance with the applicable provisions of this Manual.

105-11 INSPECTION OF WORK

This article of the Specifications provides that Department representatives shall have access to all portions of the work. The Contractor shall allow and provide reasonable access to all parts of the work to the Department's representatives and the Contractor shall cooperate with the representatives making the inspection by providing such information and assistance as is necessary for a complete inspection. **In no circumstance should the safety of the Department's representative be jeopardized when performing the inspection.**

Having access to all parts of the work does not give the Engineer and/or Technician the right to interfere with the Contractor's operations. Occasionally, however, the Technician may have to stop the work for a sufficient length of time to sample, test, or check measurements. This should be done as expeditiously as possible.

If the Contractor does not allow access to the work and does not cooperate with Department representatives in making the inspection, the provision of this article of the Specifications must be brought to his attention. Continued failure to provide access and cooperation is grounds for suspending the work in accordance with Article 108-7 of the Specifications. Except in cases of emergency, suspension on these grounds shall not be invoked without first consulting with the Division Construction Engineer.

If the Technician has reasonable grounds to believe that any finished work is not of the quantity or quality required by the contract and if the Technician has been delegated the authority by the Engineer, he may require the Contractor to remove or uncover such portions of the finished work as may be suspected of being defective. When the suspect work is exposed, the Technician shall immediately investigate the conditions and take such samples and make such tests or visual observations as may be required to document whether the suspect work does conform to the requirements of the contract. The results of this investigation shall be covered in every detail by appropriate entries in the project diary. In any event, the work shall be restored in a manner such that the finished work does, in fact, comply with the requirements of the contract.

During the course of removing, uncovering, and restoring the work, cost records shall be maintained by the Contractor and the Technician. If it is determined the suspect work is not defective, payment will be made to the Contractor for all of the work involved in removing, uncovering, and restoring the work based upon the verified actual cost of performing the work. If it is determined the suspect work is defective, no additional compensation will be allowed the Contractor for removing, uncovering, or restoring the work.

It may well be that the final decision relative to payment for this work will not be made until after final acceptance of the project. Accordingly, it must be repeated that exceptionally detailed documentation of all circumstances surrounding the work must be maintained by project personnel.

This article also provides that representatives of other units of government or political subdivisions, paying a portion of the cost of the work, railroad corporations and utility owners shall have the right to inspect the work. **Unless otherwise indicated in the contract, these representatives do not have the authority to issue instructions directly to the Contractor but must act through Department project personnel.** It is the Department’s responsibility to cooperate fully, to the extent possible, under the terms of the contract, with these outside representatives.

105-12 UNAUTHORIZED WORK

Unauthorized work may be generally defined as follows:

1. Work which is performed beyond the limits indicated by the contract and/or lines and grades established by the Engineer unless specific authority has been granted by the Engineer to exceed these limits.
2. Work performed without lines and grades having been established prior to performance of the work unless the Engineer has given specific approval to perform the work prior to establishing lines and grades.
3. Work performed contrary to instructions given by the Engineer.
4. Extra work which is performed prior to approval being given by the Engineer as required in Article 104-7 of the Specifications.

The Engineer should make every effort to prevent the performance of unauthorized work. This may be accomplished by (a) carefully coordinating the project stakeout with the Contractor's plan of operations, (b) making certain the Contractor thoroughly understands the marks and stakes by which the limits of the work are established, (c) making himself thoroughly familiar with the contract such that instructions given to the Contractor are at all times in accordance with the terms of the contract, and (d) promptly advising the Contractor, in writing, when unauthorized work is observed on the project.

In reference to Item (c) above, the Engineer should not knowingly instruct the Contractor to perform extra work without advising the Contractor that the work to be performed is, in fact, extra work. Guidelines for making this interpretation are contained in Article 104-7 of this Manual. On the other hand, however, failure on the part of the Engineer to so notify the Contractor does not relieve the Contractor of his responsibility to follow the procedures outlined in Article 104-7 of the Specifications nor does said failure on the part of the Engineer entitle the Contractor to additional compensation for the performance of unauthorized extra work.

Prior to invoking the sanctions provided in the Specifications, the Engineer should consult with the Division Construction Engineer. All circumstances surrounding the performance of unauthorized work shall be documented in the project diary. This article is not intended to be used in lieu of a temporary suspension of work order when the Engineer determines that a stop work order is prudent. See Article 108-7 for guidance in suspending work.

105-13 LIMITATIONS OF OPERATIONS

To restrict the Contractor's operations is a very serious undertaking. Unless the restriction is strictly in accordance with the terms of the contract, the Department could become liable for payment of additional compensation and be obligated to extend the completion date. Accordingly, in all cases where the Engineer is considering restricting the Contractor's operations under this provision, he shall first consult with the Division Construction Engineer.

Normally, restrictions on the Contractor's operations will be listed in the Project Special Provisions in the form of phased construction. The Engineer shall always enforce these restrictions. Other causes for restriction will generally be limited to those instances where the Contractor's operations represent a hazard to the general public or impair the function of the facility being constructed where traffic is being maintained.

105-14 NIGHT WORK

Today, much of the construction is being performed on roadways that are open to public traffic and the contract documents restrict the periods during which certain portions of the work may be performed or require the work to be performed at night and on weekends. The Contractor may be required to provide specified lighting or submit for approval the lighting he proposes to utilize for the night work. If the Contractor elects to perform night work, the Engineer has the authority to restrict those operations to those which are **adequately lighted** to provide for safe and proper construction and adequate inspection. The Engineer should investigate local noise ordinances to determine if night work is permitted. If night work is prohibited on a particular contract, it will be so stated in the contract Special Provision.

105-15 RESTRICTION OF LOAD LIMITS

The implementation of the provisions of this article of the Specifications is primarily a function of the Division Engineer. Letters from the Contractor requesting an increase in posted load limits shall be addressed to the Engineer. The Engineer shall investigate the route(s) in question and forward the Contractor's request to the Division Engineer with appropriate recommendations. The Division Engineer and, if posted bridges are involved, the Bridge Maintenance Unit will determine whether or not the Contractor's request will be granted.

If it is deemed that the Contractor's request may be allowed, a written agreement shall be entered into setting forth all of the conditions listed in Article 105-15 of the Specifications. This agreement may be in the form of a letter from the Contractor to the Division Engineer and shall be accompanied by a satisfactory bond as required in Item C of this article. (Refer to Records and Reports for a sample copy of a Permit Bond and a Special 'Light Traffic Roads' Permit). When the agreement has been approved, the posted weight limits of the affected road and/or bridge will be removed and the maintenance and repair of the road and/or bridge become the responsibility of the Contractor. The Engineer shall advise the Contractor, in writing, of the effective date of the agreement. The agreement and bond will remain on file in the Division Office.

Upon completion of the hauling operation, the road and/or bridge shall be inspected by the Division Engineer or his delegated representative, Engineer, and/or the Bridge Maintenance Unit. The Engineer shall advise the Contractor, in writing, of any necessary repairs, giving the Contractor a reasonable length of time in which to make the repairs. If the repairs are not made or if the Contractor has not begun making the required repairs within the stipulated time, the Division Engineer may authorize the work to be performed by State forces. In this case, the Contractor shall be billed for all costs involved in making the repairs. Upon satisfactory restoration of the facility and receipt by the Division Engineer of any monies due the Department for work performed by State forces, the bond shall be returned to the Contractor.

If the Contractor's hauling operations cause damage to existing facilities, the Division may elect to post a facility so that all loads on the facility are reduced.

This article of the Specifications also limits the Contractor's use of equipment on pavement, completed base course, and structures to that which complies with the statutory load limits. This provision shall not be altered without specific approval of the State Construction Engineer.

105-16 FAILURE TO MAINTAIN THE PROJECT OR PERFORM EROSION CONTROL WORK

If the Contractor fails to perform required maintenance or erosion control operations and the Engineer has reason to believe that said failure will result in (a) an end product not meeting the requirements of the contract, (b) damage to adjacent property, (c) an unnecessary inconvenience to the traveling public, (d) conditions hazardous to the traveling public, or (e) a violation that may result in the issuance of an NOV, ICA, or C & D, the Engineer should take immediate steps to have this work performed. The Contractor should be advised, in writing, of the work required, the necessity for such work, and the sanctions provided for by Article 105-16 of the Specifications. The Contractor should be given a reasonable time to begin and adequately pursue the required work. If the Contractor fails to begin the work within the time limit specified, the Engineer should, with the approval of the Division Engineer, take whatever steps are necessary and available to have the work performed by others. Any costs incurred by the Department for work performed by others as provided above in excess of the costs that would have been incurred had the work been performed by the Contractor will be deducted from monies due the Contractor on his contract.

This article of the Specifications places a responsibility both on the Contractor and the Engineer to have required maintenance work performed.

105-17 INSPECTION AND ACCEPTANCE

The Chief Engineer has delegated the final inspection and acceptance responsibility to the Division Engineer on Purchase Order Projects and resurfacing projects with 100% State funds. The Roadway Construction Engineers and Bridge Construction Engineers will have this responsibility on all other projects. The Roadway Construction Engineer is charged with the responsibility of inspecting all roadway work with the exception of gravity retaining walls, pile panel/pile timber walls, structural plate pipe, and overhead sign structures. These roadway items, as well as all reinforced concrete culverts, reinforced concrete retaining walls, proprietary walls (i.e. Reinforced Earth, TRES, Double Wall, etc.), and bridge work are to be inspected by the Bridge Construction Engineer. **See Preconstruction Conference in the Records and Report Section of this Manual for more details.**

TWELVE MONTH GUARANTEE

Many contracts contain a Twelve Month Guarantee Provision which covers major components of work for which the Contractor is wholly responsible. See Twelve Month Guarantee in the Records and Reports Section of this Manual for more information

SECTION 106
CONTROL OF MATERIAL

106-1 GENERAL REQUIREMENTS

The contract provides Specifications for all materials that will be incorporated into a project. This article stipulates that all materials used in the work are to be new and unused unless indicated otherwise. The "Minimum Sampling Guide" found in HiCAMS,

indicates who is to do the sampling and testing of each material incorporated into the project.

Reference should be made to publications by the Materials & Tests Unit for the procedures to be followed in sampling and testing of these materials.

(B) DOMESTIC STEEL

The specifications require steel and iron products that are permanently incorporated in a project, to be produced in the United States. However, a minimal amount of foreign steel and iron products are also permitted to be used in the project. The "minimal amount" is based on the combined cost of the foreign material utilized in a project. The combined costs of the foreign steel cannot exceed 0.1% of the contract bid amount or $2,500.00, whichever is greater. The Resident Engineer should ensure that the total cost of multiple items of foreign steel do not exceed the above thresholds. The contractor should provide invoices to show the actual, invoiced cost of the foreign steel or iron products. If the contractor does not provide invoices for the foreign steel, the bid amount of the item will be used to calculate the cost. If the foreign steel component is part of a lump sum item, only the actual, invoiced cost of the component will count against the allowable threshold. If invoices are not provided for the component which is part of a lump sum item, the entire amount of the lump sum item will count against the allowable threshold.

In addition, the contractor and/or subcontractor is responsible for providing documentation to certify the steel permanently incorporated in a project is produced in the United States and verify his effort to purchase domestic steel by dong the following:

1. Furnish to the Engineer a notarized certification, certifying the steel product meets the Domestic Steel requirements.
2. Maintain a separate file for steel products incorporated in any project to verify the effort the contractor put forth to purchase domestic steel.

The minimal amount of foreign steel cannot include high strength fasteners.

106-2 SAMPLES, TESTS, AND CITED SPECIFICATIONS

The Engineer is responsible for performing sampling and testing at the frequency listed in Minimum Sampling Guide. Additional tests may be performed as the Engineer deems necessary.

106-4 DELIVERY AND HANDLING OF MATERIALS

All materials are to be handled so that they will meet the Specifications when incorporated into the project. **Materials that have been inspected and approved should be rejected by the project personnel when they are judged as not meeting the contract requirements at the time of installation**. The appropriate Section Materials Specialist is available to help make decisions of acceptability of materials which may be in question. For example, reinforced concrete pipe that has been stamped approved may be damaged during delivery and subject to rejection.

106-5 STORAGE OF MATERIALS

The Engineer has the authority to control the storage of material within the right of way of the project. On projects where traffic is maintained, the Engineer should ensure that no material is stored adjacent to the travel way to cause any hazard to the traveling public. The Engineer should also ensure that no materials are stored in environmentally sensitive areas. Materials such as bagged cement, seed, etc., should be stored in such a manner as to prevent deterioration. If the Engineer or his representative suspects deterioration of a material, the Section Materials Specialist should be consulted prior to the material being incorporated into the project.

106-6 INSPECTION AT SOURCE

The inspection of materials at the source will be performed by the Materials & Tests Unit or by their representatives. Upon receipt of the Materials Received Report, the Materials & Tests Unit will forward the appropriate test results to the Engineer. When the pretested material is stamped approved in accordance with the list of approved stamps published by the Materials and Tests Unit, tagged with metallic non-colored M&T tags, tagged with F&R tags, or is liquid asphalt, it may be incorporated into the project upon receipt except that the germination of seed shall be verified. When the pretested material is tagged with red M&T tags, the material is **not** to be incorporated into the project until test reports have been received by the Engineer or until he has received verbal approval from the Materials and Tests Unit that the material meets the contract requirements.

The Materials and Tests Unit will determine if and when the Contractor is to be billed for testing of materials which were ordered by the Contractor but were not incorporated into the project.

Materials tested at the source of supply are subject to testing and rejection after being delivered to the project. An example of this is liquid asphalt which may become contaminated in transport tankers or in the Contractor's storage. Another example is concrete pipe, prestressed concrete items, etc., which could be damaged in handling and not be within the Specifications on the project.

106-7 SCALES AND PUBLIC WEIGHMASTER

Upon delivery of the material to the project, the truck driver will give one legible weigh ticket to the Technician. The Technician should check the weigh ticket to ascertain that all required information has been provided. The Technician shall sign the certificate to certify delivery, list the time of delivery, and list the location of delivery (station, etc.). These weigh tickets will be forwarded to the Engineer no later than the following day and retained as a part of the project records.

The Technician should periodically reweigh trucks delivering material to the project for which payment is to be made on the basis of weight. The trucks should be weighed on approved platform scales. Random loads of material should be discretely selected by Department personnel on a periodic basis and reweighed to check the weighing devices to verify their corrections and to check and verify the weight certificate issued by the **Public Weighmaster**. A check of the weighing device would be performed on different scales; whereas, the check to verify the weight certificate issued by the Public Weighmaster could be made on the same weighing device if platform scales were utilized. The allowable difference between the weights being compared should not

exceed 0.4% of the weight. This weight comparison should be shown on the individual ticket along with the signature of the Department's employee who observed the reweighing.

In the event this check reveals a discrepancy between the recorded and observed weights, Department personnel will investigate and attempt to determine the reason for the variance. The reason should be noted on the ticket and the ticket corrected if the cause for the variance is determined.

Whether tickets are stamped or printed with the Weighmaster's certification number, the certification expiration date should be reflected on the ticket.

Technology has developed and the methods of producing the required information on weigh tickets have evolved. In general, all the information on the weight ticket can now be computer generated; which includes the Weighmaster's stamp and signature. If the stamp is computer generated, the Weighmaster's certification number and the certification expiration date shall be reflected on the ticket. If a ticket is printed with the Weighmaster's signature, then an electronic signature is acceptable, which may occur where the Weighmaster is in one building and the weight ticket is printed somewhere else, such as a gatehouse. In this case, a signature is made on a device and then transmitted to the printer. A stored electronic signature that anyone would have access to is not acceptable.

SECTION 107
LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

GENERAL

The Specifications set forth the legal relationships between the Contractor and the Department, the FHWA, other governmental agencies, and the general public. It describes the Contractor's liabilities that may be incurred due to damages as may arise out of the prosecution of the work. It sets forth the provisions relative to the protection of the environment. It is not the intent of this section of the Manual to attempt legal interpretations. Accordingly, the detailed discussions are limited to those provisions which require direct implementation by engineering personnel. It is the policy of the Department that the Attorney General's office will be contacted for written legal opinion only by the Administrator or Chief Engineer. Inquiries concerning the need for legal opinions should be directed to them.

107-1 LAWS TO BE OBSERVED

Briefly, this is an indemnification clause protecting the Department or its employees from any liability due to the Contractor's failure to abide by laws which affect the work.

107-2 ASSIGNMENT OF CLAIMS VOID

By setting forth the fact that the Department will not recognize any assignment of claims by any Contractor against the Department, this is in effect declaring that all payments due the Contractor will be made directly to him except that with the written agreement of both the Surety and Contractor, payment may be made to them jointly. Questions of this nature should be referred to the State Construction Engineer.

107-3 PERMITS AND LICENSES

Unless otherwise specified in the contract, it is the Contractor's responsibility to secure all permits and licenses, pay all charges, fees, and taxes, and give all notices necessary and incident to the due and lawful prosecution of the work.

In general, the Department is not a policing agency to deliberately investigate and report all such violations. If, however, it is made known to the Engineer that the Contractor has failed to abide by this provision, it is his responsibility to promptly advise the Contractor, in writing, of any alleged violation and give him a reasonable time within which to comply. If the Contractor fails to comply within a reasonable time, it is the Engineer's responsibility to suspend such portions of the work as may be affected by the non-compliance in accordance with Article 108-7.

As an exception to the above, the Engineer will fully investigate the special and general conditions of any environmental permits applicable to the project such as Coastal Area Management Act or Corps of Engineers permits to ascertain compliance with **all** conditions. In the event a discrepancy is discovered between the work being accomplished, whether in accordance with approved plans or not, the Engineer shall conduct an **immediate** investigation. Work found not to be in compliance with the

approved permit(s) shall be immediately suspended. Work may resume when the permits are amended and approved.

107-4 PATENTED DEVICES, MATERIALS, AND PROCESSES

This is an indemnification clause protecting the Department from any liability for claims arising out of the Contractor's infringement of any patented agent.

107-5 ENCROACHMENT ON RIGHT OF WAY

In no case shall any utility cross or otherwise occupy the right of way without written permission of the Department. The utility owner, his agent, or Contractor must have available at the utility construction site at all times during utility construction, an approved copy of the utility agreement with plans attached. The Engineer will be furnished copies of all authorized utility agreements and it will be his responsibility to ensure that all installations on the right of way are authorized. The Engineer or his designated representative will have the authority to stop any unauthorized work. Following the completion of the project, the Engineer shall transmit one copy of each encroachment agreement to the District Engineer and one copy to the Division Engineer.

Cases will arise where private owners or business enterprises either deliberately or unknowingly excavate, fill in, begin construction of temporary or permanent type structures or signs on the project right of way. Although it is within the authority of the Engineer to stop work of this nature immediately, direct action should be delayed to the extent of contacting the property owner or business to determine the exact nature of the work and if at all possible, contact the Division Engineer or Division Right of Way Agent.

It is the duty of construction personnel to assist in the enforcement of these regulations on projects under construction, and also to call to the attention of the Division Engineer or appropriate District Engineer any known violation which they may observe along any highway in their Division.

107-6 FEDERAL PARTICIPATION

Federal participation in state highway construction is administered by the Federal Highway Administration (FHWA) of the United States Department of Transportation. During the preconstruction phases of a proposed project, an agreement is consummated between the Department and the FHWA which sets forth the monetary amount of participation on a percentage basis depending upon the Federal Aid system on which the project is to be constructed. These construction projects are commonly referred to as "Federal Aid Projects."

In this agreement, it is provided that the FHWA will extend monetary assistance and in return the Department is charged with the responsibility of administering the contract with such engineering control, inspection, policies, and procedures that the project will be constructed in accordance with the terms of the contract and that the finished materials and workmanship will be in reasonably close conformance with the requirements of the Specifications. It is also a requirement of the agreement that the Department maintain documentation of contract pay quantities and progress of the work in accordance with the procedures set forth in this Manual.

Some Federal Aid projects require "step-by-step" approval or follow "certification acceptance" procedure during the construction of the project. However, the FHWA reserves the option to change the designation of a project from certification acceptance to step-by-step approval. This change would be made during the preconstruction phase of the project. Projects designated as requiring step-by-step approval will be periodically reviewed by representatives of the FHWA during the construction phase of the project and approval by the FHWA is required prior to making major changes in the work. Department representatives perform all reviews and approvals on projects designated to follow certification acceptance procedure. If a project is step-by-step, it will be noted in the "Review Contract Details" in HiCAMS.

On all Federal Aid projects requiring step-by-step approval, representatives of the FHWA will make periodic inspections to determine if the Department is abiding by the terms of the agreement. Such inspections will include investigations of various phases of work in progress, adequacy of inspection, maintenance of traffic, engineering control, documentation in records and reports, and compliance with all federal requirements contained in the Special Provisions of the contract. During these visits, the Engineer shall cooperate fully with FHWA representatives by making all files, project records, and parts of the work available for inspection. He shall also, to the best of his knowledge, answer any questions concerning the work. On those Federal Aid projects requiring step-by-step approval, the FHWA must approve all changes and extra work. This approval will be made prior to such changes being made. Changes requiring advance approval would include work requiring negotiated prices or where force account provides the basis of payment, significant plan revisions, overruns, and underruns of quantities which would result in a major change in the cost of federal participation, and generally, any change which would require a Supplemental Agreement except as noted in the Records and Reports Section of this Manual.

On non step-by-step projects, prior FHWA approval is not required regardless of the amount.

On step-by-step projects changes in the work of this nature and/or magnitude will require concurrence of the Division Engineer, State Construction Engineer, Roadway Construction Engineer or Bridge Construction Engineer, and the FHWA. Accordingly, when the Engineer discovers in advance that such changes are going to be required, he should first consult with the Division Construction Engineer. Wherever possible, he should also bring these impending changes to the attention of the appropriate Construction Unit's Engineer and the FHWA's Area Engineer.

On Federal Aid projects designated to follow certification acceptance procedure, the Department assumes the responsibilities of the FHWA and performs the inspections and approvals otherwise performed by FHWA representatives under projects requiring step-by-step approval. In essence, the FHWA will not be involved in the normal overview and step-by-step approval process in the construction phase of the project. However, the FHWA reserves the right to become involved in the project and must still be notified in advance of all final inspections. Subsequently, the Department is placed with the burden to operate consistent with our governing procedures and with proper contract administration and construction management.

On Federal Aid projects following certification acceptance procedure, representatives of the Department will do the following: perform construction supervision, inspection and engineering, and record keeping; verify project charges; approve change orders and construction revisions; and resolve contract claims. The FHWA shall be notified of any major claims of an unusual or controversial nature and

any major changes in the design or standards resulting in the need for a design exception. FHWA representatives will not normally make periodic inspections during the course of the project but **shall** be contacted in advance of all final inspections. Final inspections will be made by Department representatives and should not be delayed pending the FHWA's attendance. Every effort should be made to administer construction projects in accordance with proper contract administration and construction management regardless of whether a Federal Aid project is designated to require step-by-step approval or to follow certification acceptance procedure.

107-9 COORDINATION WITH RAILWAY

For those contracts containing Special Provisions which require the Contractor and all Subcontractors to have railroad insurance, the following procedure is to be followed:

1. It shall be the responsibility of the Division Engineer to review the Special Provisions relating to the special railroad insurance and to discuss them at the preconstruction conference. The Contractor shall be advised that neither he nor any of his Subcontractors will be permitted to perform any work within the limits specified in the contract until all required insurance has been approved by both the railway company and the Department. The Contractor shall also be advised that all correspondence pertaining to the insurance policies and certifications including the submission of them for approval shall be to the State Railroad Agent. This shall be recorded in the minutes of the preconstruction conference (see Article 108-3).
2. After notification of award of the contract, the State Railroad Agent will write the Contractor and give him specific instructions as to the procedures to be followed in the preparation of the required insurance. A copy of the Insurance Special Provisions will be attached to the letter to the Contractor. A copy of the letter will be sent to the Contractor's insurance agency with a copy of the Insurance Special Provisions attached. One copy of the letter will also be sent to the Division Engineer and one to the Resident Engineer.
3. As instructed in the letter, the Contractor or his insurance agency shall submit the required insurance, in its entirety, to the State Railroad Agent for review and further handling with the railway company.
4. The policies and Certificates of Insurance will be reviewed by the State Railroad Agent. If correct, they will be forwarded to the railway company for approval with copies of the letter of transmittal being sent to the Division Engineer, the Resident Engineer, and if the project is a Federal-Aid project, the FHWA with a copy of the Certificate of Insurance. If incorrect, the State Railroad Agent will handle any communications necessary for corrections with the Contractor's insurance agency, primarily by telephone. Should it be deemed necessary to handle by letter, the State Railroad Agent will write the Contractor's insurance agency and set forth the specific corrections required with copies of the letter being sent to the Contractor, the Division Engineer, and the Resident Engineer.
5. When railway company approval of the insurance policies and Certificates of Insurance have been received by the State Railroad Agent, the Resident Engineer will be notified of approval by copy of a memorandum to the Division Engineer. The date the policies expire will be shown in the memorandum of approval. The Contractor cannot begin work in the railroad right of way until these policies are received.
6. The Resident Engineer shall advise the Contractor, in writing, that his insurance

has been approved and shall also show the date that the policies expire. Copies of this letter shall be sent to the Division Engineer and the State Railroad Agent.

7. At least 30 days prior to expiration of any policy, the State Railroad Agent will advise the Contractor by letter as to the date a specific policy will expire with a copy of the letter to the Contractor's insurance agency, the Division Engineer, the Resident Engineer, and the affected railway company.
8. Insurance for a Subcontractor will be handled as set forth in Items (2) through (7) when work is to be performed in a railroad right of way by a Subcontractor. When the Resident Engineer approves the Request for Subcontract, RS-1-A or RS-1-B, for this work, the State Railroad Agent shall be mailed or, when approval needs to be expedited, faxed a copy.
9. In those instances where a minor portion of a sublet contract item is to be performed within the railroad right of way, insurance for a Subcontractor will not be required if the Prime Contractor will perform that portion of the work within the railroad right of way. A minor portion of a contract item would be 10% or less. The entire contract quantity would be shown on the Request for Subcontract, RS-1-A or RS-1-B, with an explanatory note to the effect that the portion of work for the affected line items within the railroad right of way will be performed by others.
10. Whenever work is performed within railroad rights of way, the Prime Contractor and the Subcontractor shall maintain appropriate insurance coverage. The Prime Contractor is also required to ensure that those workers who perform work within the railroad right of way are legitimate employees of the Prime Contractor or Subcontractor with appropriate insurance coverage.
11. The State Railroad Agent will communicate directly with a Contractor, Subcontractor or insurance agency. The State Railroad Agent will relieve the Resident Engineer of all responsibilities related to the contract insurance requirements except authorizing the Contractor or Subcontractor(s) to begin, continue or resume work on railroad right of way, and determining the necessity of a Subcontractor to furnish insurance as set forth in Item (8) above.

It is realized that railroad insurance is a special item and the Resident Engineer is not expected to be familiar with all insurance requirements. The State Railroad Agent will be responsible for the administration and technical review of the provisions.

107-10 WORK IN, OVER, OR ADJACENT TO NAVIGABLE WATERS

Prior to the final design of bridges and approaches over navigable streams, the Department secures all necessary permits from the U. S. Coast Guard. Similar permits are obtained from the Corps of Engineers for work proposed in constructing highways parallel to and encroaching on navigable streams. Any special condition of these permits will be outlined in the Special Provisions.

If a Contractor of his own volition during construction desires to construct haul roads or borrow pits which affect navigable waters and which are not specifically covered in the project permit, he must initiate the action to secure an additional permit from the Corps of Engineers coordinating as necessary with the Department.

107-11 PROTECTION AND RESTORATION OF PROPERTY

This article of the Specifications holds the Contractor liable for any act, omission, negligence, or misconduct on his part which results in damage to any property. This includes underground and overhead utility facilities, previously completed work, adjacent properties, and any other property directly or indirectly affected by his prosecution of the work.

The Department's project personnel should assist the Contractor in avoiding damages by warning him of known underground facilities, the limits of project right of way, and/or easements in any operations connected with the prosecution of the work which it appears may result in property damage. These personnel must also guard against giving instructions to the Contractor which would result in property damage.

On some projects, the established right of way width purposely does not contain the outer limits of project construction. In these cases, permanent or temporary construction easements are included in project right of way agreements. These easements may be specific as to the limits involved or may be general in the sense that they include areas more than sufficient for project construction. The forces responsible for staking the project should be fully informed as to the project right of way limits and all construction easements which have been obtained by the Right of Way Department. This information may be obtained by securing copies of all project right of way agreements.

All stakeouts shall be confined to the limits described in the right of way agreements. **In no case,** shall the Resident Engineer allow the Contractor to proceed with construction outside the previously obtained limits on verbal authority from the property owner. Failure on the part of the Resident Engineer to follow this procedure may result in the Department being liable for property damage.

If property damage does occur due to the Contractor's operations, the Resident Engineer shall advise the Contractor, in writing, of such damage and direct him to restore the same within a reasonable period of time. If the Contractor fails to make the corrections within the stipulated time, the Resident Engineer shall consult with the Division Engineer to determine the method of restoring the damage. In the event restoration is made by State forces, the cost of performing such work will be deducted from any monies due the Contractor.

The Engineer should urge the Contractor's cooperation with property owners and postal service employees to ensure mail delivery to property owners affected by project construction during the life of the project.

107-12 CONTROL OF EROSION, SILTATION, AND POLLUTION

(A) GENERAL

The General Assembly of 1973-1974 enacted into law the N. C. Sedimentation Pollution Control Act of 1973 and amendments to the Act of 1974. This is a comprehensive and strict law which governs the control of sediment in construction type activities, both public and private. As a result of this law, the Department developed an Erosion and Sedimentation Control Program and submitted it to the N. C. Sedimentation Control Commission, who approved it for use by the Department in lieu of their published program. The Department's program consisted of the Standard Specifications for erosion control and the assurance that the Sedimentation and Pollution and Control

Act would be adhered to. The Department is allowed to operate under this program because it was felt the same results could be achieved. The approval of this program must be renewed each year and can be revoked at any time it is determined the Department is not meeting its obligations. If the Department were not able to operate under this blanket program, it would require individual project submission to the N. C. Sedimentation Control Commission for approval and put another step and delay in the chain of requirements before a project can be constructed. For this reason, if for no other, it is imperative that the Department require Contractors to live up to the requirements and obligations imposed by its contracts.

It is the policy of the Department to prevent or retain all accumulations of sediment developed as a result of erosion within the project limits. This same policy holds true for waste, borrow, and soil type base material sources outside the right of way, to the extent that all accumulations of erodible material will be confined to the work site area. This containment of erodible materials will be in accordance with the applicable provisions of the Specifications and this Manual.

The Specifications provide the Resident Engineer with the authority to limit the areas over which the Contractor may carry out clearing and grubbing, excavation, borrow, and embankment operations. Reference should be made to the applicable provisions of the Specifications and this Manual for guidelines to follow in carrying out this authority.

The General Assembly of 1971 enacted into law "The Mining Act of 1971." This Act provides that, except for on-site construction activities, "mining" shall consist of the breaking of the surface soil for the purpose of extracting of minerals, ores, or other solid matter over any area in excess of one acre. It further provides that no mining operations shall commence until the operator or firm proposing to perform the mining has submitted a "Plan of Reclamation" to the Mining Council for approval and subsequent permit. By prior agreement, the Mining Council has determined that the provisions of the Standard Specifications represent an acceptable "Plan of Reclamation" and accordingly, has extended an exemption to Contractors performing work in borrow and soil type base course pits solely for the purpose of construction of public roads systems of North Carolina. **This exemption applies only to those natural material deposits listed**. Contractors are required to obtain permits for all other "mining" operations.

This is mentioned in this Manual to emphasize the fact that the exemption as allowed is based on the premise that both Department and Contractor personnel will see to it that the applicable provisions of the contract relating to shaping, draining, controlling of erosion, and reclamation within these areas will be fully enforced. Failure to enforce these provisions may result in the exemption being revoked.

It is further the policy of the Department, to the extent possible and/or practicable, to protect the natural beauty, water supplies, and atmosphere of the State from damage by construction activities within the terms of the contract and all applicable laws and ordinances affecting such operations. The public is made aware of environmental protection measures included in individual contracts through public hearings and environmental impact statements. The Engineer must make himself fully aware of the applicable terms of the contract and take such actions as will prevent damage from occurring.

Best Management Practices (BMP) are activities, practices and procedures undertaken to prevent or reduce water pollution. The Engineer should use these BMPs consistently on all projects.

(B) EROSION AND SILTATION CONTROL

The Contractor shall install erosion control devices in accordance with the contract documents. The size and type of many measures are dictated by the erodible surface that a Contractor may plan to expose in one drainage area.

The purpose of erosion and siltation control is to provide protection for natural streams, water impoundments and adjacent property from eroded materials. The Engineer should be aware of the restrictions contained in the Specifications and, by appropriate consultation with representatives of the Roadside Environmental and Construction Units, see that adequate devices are installed to control siltation during construction. All devices must be maintained in order to be effective. If devices are overcome by extremely heavy rains, the Department, acting through the Contractor, must rebuild and restore the devices so that they will continue to function.

(C) COORDINATION OF EROSION CONTROL OPERATIONS

Incorporate the required erosion control measures into the project in an expeditious and continuing manner. If, due to impracticality or seasonal limitations, permanent features cannot be constructed, temporary measures must be coordinated with the various phases of construction. These provisions list some temporary measures that may be taken, but the Engineer should never feel limited to those features listed in this provision or in the plans.

(D) WATER AND AIR POLLUTION

The North Carolina Department of Environment and Natural Resources (DENR) has developed and published rules and regulations governing water and air pollution in North Carolina. This agency has a staff that visits construction projects for the purpose of determining if any violations exist. The Contractor is required by Specifications to comply with all applicable laws and ordinances, including water and air pollution laws. Department personnel should cooperate with the staff of DENR in their reviews and should give full consideration to any recommendations that might be made. If a violation is brought to the attention of the Engineer, he should advise the Contractor of the deficiency and request that appropriate actions be taken to correct the situation. Copies of the appropriate rules and regulations should be obtained, if needed, from that agency in order to assure the most current information is obtained.

(E) DUST CONTROL

The Contractor may use any recognized dust palliative of his choosing that does not endanger the environment. These may include water, calcium chloride, or other chemical treatments. Dust control shall not be considered effective when the amount of dust creates a potential or actual unsafe condition, public nuisance, or condition endangering the value, utility, or appearance of any property.

(G) SANCTIONS

In the event the Contractor fails to provide erosion control measures as directed, the Engineer may temporarily suspend the work wholly or in part by written order as provided by Article 108-7. The Engineer should consider suspending the contractor's work when the weekly erosion control list has not been completed. If the Contractor fails to perform erosion control work as directed within twenty-four hours of notice, the Division Engineer, in consultation with the State Construction Engineer, can have the work performed with other forces and the cost of performing the work will be deducted from the monies due the Contractor, as provided in Article 105-16.

It is the Department's policy that the Engineer will suspend the contractor's land disturbing operations when an ICA, NOV or C&D is issued.

107-13 PROTECTION OF PUBLIC LANDS

This article places special emphasis on the Contractor's responsibility in preventing and suppressing forest fires within State or National Forests.

107-14 RESPONSIBILITY FOR DAMAGE CLAIMS

This article ties together all of the damage and liability provisions of this section of the Specifications. It provides for the withholding of monies due the Contractor for certain claims arising from damages incurred as a result of the Contractor's prosecution of work. For other damage claims, it provides for the Contractor to show proof of protection from such liabilities by public liability and property damage insurance.

Generally speaking, monies may be withheld from the Contractor for (a) claims by reason of the Contractor's infringement of patent, etc., (b) amounts paid by the Department by reason of the Contractor's failure to comply with or violations of law, etc., and (c) claims arising from damages caused by the Contractor's failure to control erosion either within or outside the right of way in accordance with the terms of the contract.

The Department may withhold monies due the Contractor or may require him to show proof of public liability and property damage insurance for (a) claims for the failure of the Contractor to safeguard the work, (b) claims by reason of the Contractor's failure to erect adequate barricades, warnings, etc., and (c) claims by reason of blasting damage.

The examples listed are subject to review on an individual basis by the Division Engineer prior to taking action.

In implementing these provisions, it should be understood that it is the intent of these provisions that the Department does not propose to construct a project at the expense of third parties.

107-15 LIABILITY INSURANCE

The Contractor shall furnish to the Department an original standard ACORD form certificate of insurance evidencing commercial general liability with a limit for bodily injury and property damage in the amount of $5,000,000.00 per occurrence and general aggregate, covering the Contractor from claims or damages for bodily injury, personal injury, or for property damages which may arise from operating under the contract by the employees and agents of the Contractor. The required limit of insurance may be obtained by a single general liability policy or the combination of a general liability and excess liability or umbrella policy. The State of North Carolina shall be named as an additional insured on this commercial general liability policy.

The Resident Engineer should verify that the Contractor has the applicable limits of insurance prior to the Contractor beginning work on the project. Additional information can be found in the Records and Reports Section of this manual.

Examples of a standard ACORD of certificate can be found in Forms and Examples of the Records and Report sections of this manual.

The Contractor and his subcontractors shall provide the Resident Engineer proof of coverage of worker’s compensation insurance prior to beginning work. The Contractor’s proof of coverage may be from an insurance carrier or a certificate of compliance issued by the Department of Insurance for self-insured subcontractors.

107-16 OPENING SECTIONS OF PROJECT TO TRAFFIC

This article gives the Engineer the authority to open all or any portion of a project to traffic when it is determined that the Contractor will not complete the project by the completion date. This article only applies when the contract provides that traffic will not be maintained through the project during construction.

This action is not taken unless it is deemed absolutely necessary due to extended inconvenience to the traveling public caused by the late completion of the project. Prior to taking such action, careful consideration must be given as to what the ultimate completion date will be as "completion date" includes all authorized extensions (Article 101-17, Specifications). This will require the complete review of the project records to determine if the Contractor is due any authorized extensions of the completion date as may be allowed under Article 108-10 of the Specifications. The placing of traffic on a project prior to expiration of contract time could well lead to the Department of Transportation being liable for extensions in the completion date as well as additional compensation. Requests to open a project to traffic should be made to the State Construction Engineer along with a complete written review in accordance with the guidelines set forth in Article 108-10 of this Manual.

107-17 CONTRACTOR'S RESPONSIBILITY FOR WORK

This article of the Specifications provides that the project is under the care and keeping of the Contractor until final acceptance (Article 105-17). The Contractor is required to repair at his expense any damage which occurs to the work. Exceptions to this would include, but may not be limited to, the following examples:

1. Damage to any work caused by actions of the elements of such exceptional nature
   as to be legally classified as Acts of God (Reference Article 101-3 of the Specifications).
2. Damage caused by the elements to **embankments** which have been properly constructed, drained, and maintained by the Contractor (Reference Article 235 4(D) of the Specifications).
3. Damage to seeding and mulching which was caused without the fault or negligence of the Contractor.
4. Damage caused by work being performed by Department forces.

(A) GENERAL

The acquisition of the right of way for a construction project is a function of the Right of Way Branch. This portion of the Manual will, therefore, be limited to the responsibilities and duties of the Engineer and his assigned construction personnel in seeing that all work on the project is contained within the limits of the acquired right of way or construction and drainage easements and that all special conditions set out in the right of way agreements are carried out.

In accordance with practice and procedure in effect within the right of way, the Right of Way Agent will prepare a list of all items of work to be done by the Department or its Contractor which may have been agreed upon during negotiation and will furnish this list to the Division Engineer and the Resident Engineer. This list will contain, but not be limited to, such items as restoration of driveways, resetting of fences, sloping of

banks, modification of drainage easements, etc. The Division Engineer or Resident Engineer will also be notified of any instance where a property owner has been allowed extended occupancy of a building beyond the date of contract award or any other instance of delayed right of entry. In the event it is determined when the project is staked that additional construction easements are needed or if any question arises relative to the administration of the right of way, the Engineer is to contact the Division Right of Way Agent immediately.

With the above mentioned information and services which are made available to the Engineer, **it should be reemphasized that in no case, even at the direct request of the property owner, should work be performed outside of the limits of the acquired right of way, construction, or drainage easements without the execution of a written agreement between the property owner and the Department covering the work to be performed.**

(B) CONDEMNED PROPERTIES

In certain cases, the Right of Way Branch cannot obtain the necessary right of way for a project by negotiation. In these cases, condemnation proceedings are started by the Right of Way Branch and a declaration of taking and complaint is filed prior to the award of the contract. A plan sheet showing the property is filed with the complaint and, if the condemnee files an answer, a detailed map of the property is filed along with the other documents. These detailed maps are prepared by the Property Survey Section of the Location and Surveys Unit. When only a part of the property is to be taken, this map shows the right of way lines and/or construction easement lines with respect to the property boundaries and also the general topography of the property. After the map has been prepared, it is sent to the Division Right of Way Agent who will consult with the Resident Engineer to determine that all slope easements, drainage easements, right of way lines, etc. are properly shown on the map and that the actual construction limits of the project are contained within the various lines shown on the map. This check of the map is very important in that inaccuracies discovered in the map during the actual trial can result in great embarrassment and loss to the Department.

Department forces and Contractor's forces are to confine all their work to the areas shown on the plans and the detailed map if it has been prepared. This should be emphasized during the project preconstruction conference and at that time the Contractor should be given a list of all condemned property on the project and impressed with the importance of staying within the areas designated. Should the Contractor, for any reason, work or park equipment outside the designated area, he should know that it is his responsibility and that any transaction between him and the property owner does not include the Department.

Any question arising as to the administration of the right of way on condemned property should be referred immediately to the Division Right of Way Agent, and in the event it is finally determined that additional area must be obtained to construct the project, it may be necessary to refer the matter back to the Attorney General's Office so that an amendment be filed to the declaration of taking. This procedure is undesirable and can take three to four weeks to process.

(C) DRIVEWAYS

The location of driveways necessary to be relocated or otherwise adjusted during project construction should be determined during the field plan inspection. The driveways must be graded so that the property owner maintains use of the driveway. It may be necessary that the property owner be contacted before a final decision for driveway adjustment can be reached. If at all possible the representative of the Right of Way Branch negotiating for the right of way will obtain a construction easement to cover any work in adjusting the driveway which will exceed the project right of way. The Engineer should be familiar with the terms of the Right of Way Agreement and ensure that construction adheres to the agreement. In the event an easement has not been previously obtained or in the event the property owner requests a change in the construction outlined in the agreement, the Engineer is to allow no work to be performed outside of the right of way until the Division Right of Way Agent has been contacted and the proper action taken.

The Department has adopted a uniform policy for driveway widths and locations for commercial properties. A copy of this Policy Manual and any necessary interpretations should be obtained from the Division Engineer.

(D) RELOCATION OF FENCES

Generally, the relocation of fences is covered in the Right of Way Agreement. In the event it becomes necessary to relocate fences as a contract item, the Right of Way Agent will furnish a list of the work necessary to the Design Unit for inclusion in the contract. Fencing reset by contract is usually replacement in kind; however, should it become necessary to use new materials, the Resident Engineer should contact the Division Right of Way Agent to determine the proper course of action as the furnishing of new materials is not normally included in the contract. The Contractor may privately deal with the property owner to reset his own fence. Any agreement of this nature should be properly documented in the Engineer's files. The Engineer should also note that any labor performed on the right of way of a Federal Aid project is subject to the wage provisions of the contract (Article 107-22).

(E) DRAINAGE EASEMENTS

The need for drainage easements is established by the Hydraulics Unit during the design stage of a project. These easements are to provide the work area required for the widening, deepening, or relocation of flow channels along the project, or at the inlet or outlet ends of drainage structures. In some instances, where drainage structures outlet into existing ditches and cleaning out the existing ditch is all that is required, drainage easements are not considered necessary. In those cases, it may be desirable to clean out existing ditches with Maintenance forces prior to letting the project to contract. Factors of this nature should be thoroughly reviewed at field plan inspections. **Ensure the project permits allow the work planned within the drainage easement.**

In the event drainage changes must be made during construction, the effect on adjacent properties is to be thoroughly studied prior to the change. Additional drainage easements required could be difficult to obtain, could be across condemned property and may require a revised permit. After the change has been determined necessary and

approved by the Hydraulics Unit, the Resident Engineer is to contact the Division Right of Way Agent and request that easements required by the change be negotiated.

Where water is discharged from the right of way outside a natural drain or existing ditch, an easement is required for the necessary channel and construction operation to a natural drain. Where diversion of water is made to a natural drain or existing ditch which would increase the discharge considerably above its capacity, an easement is required to enlarge and improve the drain to a point where the increased discharge can be released without causing damage.

Where improvement to an existing drain is required for proper drainage and not covered in the paragraph above, a permanent drainage easement is **not** required. Even though the drain may be enlarged and deepened, if the property owner is informed of what is to be done and agrees, in writing, to allow entry onto his property for this work, this is all that is required. This should not be construed to mean that in all cases of this nature, a temporary permit of entry only should be obtained. There will be instances where a permanent easement is desirable. Also, it should not be necessary to obtain written permit of entry on those drains which have previously been routinely maintained. Permission for this is implied until otherwise advised by the property owner. **Ensure the project permits allow the work planned for drainage improvements.**

Recommendations for clean outs which are to be covered by permit of entry should be so noted on the plans. The approximate length and cross section should be included so that this permit can be obtained at the same time as the acquisition of right of way.

107-20 NO WAIVER OF LEGAL RIGHTS BY THE DEPARTMENT

In the event of overpayment or underpayment on the part of the Department or in the event the Contractor fails to perform the work in accordance with the terms of the contract, the Department has the authority to correct such payment whether or not the final estimate might have been previously processed.

In the event it becomes necessary for the Department to recover overpayment from the Contractor and/or Surety after the final estimate has been paid, the matter will probably be handled by the Attorney General's office involving considerable legal expenses. Preparing the monthly estimate accurately should avoid these unnecessary costs.

Underpayments on the final estimate will be handled by the State Construction Engineer in the form of a Supplemental Final Estimate.

107-21 SAFETY AND ACCIDENT PROTECTION

Refer to the Workplace Safety Manual and the Safety Policy and Procedures Manual.

107-22 WAGES AND CONDITIONS OF EMPLOYMENT

GENERAL

The provisions contained in Form FHWA-1273 are generally applicable to all Federal-aid construction projects; however, certain provisions, such as Davis-Bacon and Copeland Act requirements are only required for projects located on a Federal-aid highway system. Form FHWA-1273 must be made a part of, and physically incorporated into all contracts as well as appropriate subcontracts and purchase orders. These

provisions can be found in the Standard Special Provisions of all Federal Aid contracts. If payrolls are not required of the Contractor, the contract will contain a Project Special Provision entitled, "Submission of Records- Federal-Aid Projects" which states the following: ***This project is located on a roadway classified as a local road or rural minor collector, therefore the requirements of Paragraph IV - Davis Bacon and Related Act Provisions are exempt from this contract***. (The Federal Aid Number will include "BRZ".) Otherwise, the requirements outlined in Form FHWA-1273 do apply and should be enforced by the Department.

The Davis-Bacon Act requires the payment of locally prevailing wages and fringe benefits to laborers and mechanics employed on Federal contracts in excess of $2,000 for construction, alteration, or repair (including painting and decorating) of public buildings or public works. Davis Bacon was enacted as a means to prevent contractors from importing cheap labor from outside the area, thereby, keeping capital at home with the local labor force where it would do the most good. See the US DOL's Wage and Hour Division Web site for additional information regarding labor policies (http://www.dol.gov/whd/contracts/dbra.htm.)

The provisions of Paragraph IV require the submission of payrolls by the Contractor and each Subcontractor as well as overtime regulations and the withholding of liquidated damages for wage violations. Each Engineer shall become familiar with these contract provisions as well as the information contained in the U.S. Department of Transportation, FHWA "Labor Compliance Manual." This Manual, which is furnished to each Division and Resident Engineer, defines policies and procedures applicable to the labor compliance provisions. The U.S. Department of Transportation, FHWA Labor Compliance Manual contains pertinent information on responsibilities and procedures. Chapter 402 outlines a suggested procedure for use at the preconstruction conference in advising the Contractor of the requirements. At the preconstruction conference, the Contractor shall be made aware of the existence of the Labor Compliance Manual and advised that he could eliminate problems by procuring a copy of same from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC. If the Contractor is not familiar with the payroll procedures required on Federal Aid projects, Chapter 509 shall be reviewed with him. This chapter contains the requirements for weekly payrolls. The Contractor should be requested to furnish one copy of each week's payroll. Each approved second tier Subcontractor should send their payroll to the first tier Subcontractor and each approved first tier Subcontractor should send their payroll to the Prime Contractor who will check it for correctness and furnish it to the Resident Engineer. The payrolls are to run consecutively from the date the Contractor begins construction through the date of acceptance. During periods of time, one week or longer, when no work has been performed, it will not be necessary for payrolls to be submitted.

Site of Work

The "site of work" is defined as the physical place or places where the work called for in the contract will remain; and any other site where a significant portion of the work is constructed, provided that such site is established specifically for the performance of the contract or project. This would include borrow/wastes pits that are established exclusively for the project. Asphalt/Concrete plants are not typically considered "site of work" but there are cases where plants are established exclusively for the project, and in those cases they are considered "site of work." Transportation between locations, which are included in the "site of work", are covered under Davis-

Bacon and certified payrolls should be submitted for the employees (including truckers) performing work in these areas.

Payroll Exemptions

Instances where employees are not subject to requirements of the Davis-Bacon Act and certified payrolls are not required for the work include the following:

- Truck drivers, including those employed by the contractor, who come on the "site of work" to deliver or pick up construction materials.
- Project engineers, surveyors, quality control or quality assurance inspectors and contract compliance inspectors are not usually considered to be laborers or mechanics.

Required Information

When a payroll is submitted for a Subcontractor, it shall show the following:

(Name) , Subcontractor for (Name) , Prime Contractor.

When a payroll is submitted for a second tier subcontractor, it shall show the following:

(Name) , Second Tier Subcontractor for (Name) , Prime Contractor.

Upon award of contract, a record should be prepared by the Resident Engineer's office to document the receipt of payrolls. The Prime Contractor should be listed on the form and each Subcontractor should be listed upon receipt of approval. Payrolls shall be received and documentation shall be completed for each week of the period prior to processing of the monthly estimate. Payrolls are to be received for the period four weeks in advance of the period payment is being made. In the event no work was performed for a subject week, documentation shall be completed with the indication that all Contractors were inactive. The payrolls shall be assembled in the same order as listed on the attached coversheet , and filed in the Contractor's Payrolls section of the project file. **Form FAP-1,** at the end of this Article, is acceptable as the coversheet.

The Resident Engineer shall review the Contractor's payroll to determine if there is reasonable compliance with contract requirements. The first payroll received from the Prime Contractor and each Subcontractor shall be thoroughly inspected for conformance with contract requirements. If error(s) are found in the first payroll, the second payroll shall be thoroughly inspected and so forth until a correct payroll has been submitted. Once a correct payroll has been received, the checking of subsequent payrolls may be limited to the review of wages for at least two employees randomly selected for each weekly payroll received from the Contractor and each Subcontractor. However, to ensure that a diversity of classifications is being examined, a thorough inspection shall be made of all payrolls received from the Prime Contractor and each Subcontractor for at least one week for each quarter year period. The following check list should be used to determine the Contractor's compliance.

1. The payroll covers the starting date of the project.
2. A weekly statement of compliance, signed by the contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract, is attached to or made a part of each payroll, including each supplemental payroll. The Statement of Compliance shall certify the following:
   (i) That the payroll for the payroll period contains the information required to be provided under §5.5 (a)(3)(ii) of Regulations, 29 CFR part 5, the appropriate information is being

maintained under §5.5 (a)(3)(i) of Regulations, 29 CFR part 5, and that such information is correct and complete;
(ii) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in Regulations, 29 CFR part 3;
(iii) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
The USDOL Form WH-347 may be used to meet the requirements of the statement of compliance. A copy of Form WH-347 can be found on the Wage and Hour Division web site at the following address. http://www.dol.gov/whd/programs/dbra/wh347.htm

3. The payroll has the full name of the employee. Addresses and full social security numbers shall not be submitted on weekly transmittals, however, an individually identifying number for each employee (e.g. last four digits of employees' social security number or an assigned employee number) . If new employees are added to subsequent payrolls, the above information is required.
4. Classifications shown on the payroll are as listed in the general wage decision in the contract.
5. The basic hourly wage rate is as much or more than the rate for each classification shown in the general wage decision in the contract. Contractors may use "bona fide" fringe benefits to achieve the hourly wage rate listed in the contract wage decision. Where fringe benefits are required to be paid or are being used to offset required wage rates, they should be shown on the certified payroll information in order to verify the employees are being paid the prevailing wage rate for work performed.
6. All time worked by laborers and mechanics in excess of 40 hours per week shall be paid at a rate equal to 1-1/2 times the regular hourly rate. The half-time premium for overtime must be at least one-half the basic hourly rate from the contract wage decision and cannot be met with fringe benefits. (See examples below.)
7. For those employees working in more than one classification, the daily and weekly hours worked in each classification, including actual overtime hours worked, are shown.
8. All deductions are itemized.
9. The appropriate fringe benefit notation has been checked or the benefits are itemized on the payroll.
10. All mathematical computations are correct.
11. The net wages paid are shown.

Example #1:

Minimum Wage Decision:
Required Hourly Rate = $14.00
Required Fringe Benefits = $0.00
Total Minimum Wage/Fringe Benefit Obligation = $14.00

The minimum wage and fringe benefit requirements may be met in either of the following ways:

(1) $14.00 in hourly wages; OR
(2) $11.00 in hourly wages and $3.00 in pension contributions or other "bona fide" fringe benefits.

In case (2), if the employee works 41 hours, for the one hour of overtime, the half-time premium is paid on the contract hourly rate. The one hour of overtime may be shown as:

$11.00 (hourly wage) + $3.00 (fringe benefits) +$7.00 (half –time premium rate)

Example #2:

Minimum Wage Decision:
Required Hourly Rate = $14.00
Required Fringe Benefits = $3.00
Total Minimum Wage/Fringe Benefit Obligation = $17.00

The minimum wage and fringe benefit requirements may be met in either of the following ways:

(1) $17.00 in hourly wages;
(2) $14.00 plus $3.00 in pension contributions or other "bona fide" fringe benefits;
(3) Any combination of equivalent hourly wages and fringe benefits that equal $17.00.

*Note – if the employee works 41 hours in a week, for the overtime portion of their pay, the employer must meet the $14.00 per hour rate then add the half-time rate of $7.00.

"Bona Fide" Fringe Benefits:

The Davis-Bacon Act lists all types of fringe benefits which the Congress considered to be common in the construction industry as a whole. These include the following: Medical or hospital care, pensions on retirement or death, compensation for injuries or illness resulting from occupational activity or insurance to provide any of the foregoing unemployment benefits, life insurance, disability and sickness insurance or accident insurance, vacation and holiday pay, defrayment of costs of apprenticeship or other similar programs or other bona fide fringe benefits, but only where the contractor or subcontractor is not required by other Federal, State or local law to provide any of such benefits.

The Davis-Bacon Act excludes fringe benefits which a contractor or subcontractor is obligated to provide under other Federal, State or local law. No credit may be taken for the payments made for such benefits. For example, payments for workmen's compensation insurance under either a compulsory or elective State statute are not considered payments for fringe benefits. Payments made for travel, subsistence or to industry promotion funds are not normally payments for fringe benefits under the Act.

Classification Reviews

Should the Contractor determine that classifications contained in the contract are not sufficient, he shall write the Resident Engineer stating his needs and the minimum hourly salary that he proposes to pay or complete Form 1444, Request for Authorization

of Additional Classification and Rate, located on the Construction Unit website at the following address.
https://connect.ncdot.gov/projects/construction/Pages/Construction-Resources.aspx

The Resident Engineer will then forward this request to the State Construction Engineer who will prepare the necessary forms and submit the request to the Department of Labor (DOL). The State Construction Engineer will transmit the findings of the DOL to the Resident Engineer with any necessary instructions.

Resident Engineer's Review Process

If an error is found on a payroll, the Resident Engineer shall determine if the labor violations committed are non-willful. When willful intent is suspected, the Resident Engineer should seek further guidance from the Division Engineer. The following procedures for correction of the error shall be followed:

1. The original payroll shall **not** be returned to the Contractor.
2. The Prime Contractor shall be notified of the error. If the payroll found in error is for a Subcontractor, the letter shall be addressed to the Prime Contractor with a copy to the Subcontractor. **Form FAP-2** at the end of this Article is acceptable.
3. The Resident Engineer shall, upon receipt of the corrected payroll and other supporting data, document the resolution of the violation. A memorandum to the file shall be written along with the Contractor's letter of explanation and the copy of the canceled check which is payment from the Contractor to the employee for the underpayment or the copy of the statement signed by the employee that he has received the underpayment from the Contractor. **Form FAP-3** at the end of this Article is acceptable.

Spot Interviews

In addition to the checking of payrolls prior to payment of the monthly estimate, it is the responsibility of the Resident Engineer to perform the following for all Federal Aid projects:

1. Conduct spot interviews with the Contractor's employees to determine they are properly classified. Interviews should be conducted on each project no less frequently than once a quarter (based on the calendar year, not the life of the project) and at least one employee of the Prime Contractor and each Subcontractor should be interviewed during the life of the project. The interview form provided at the end of this section or similar form should be used. A Spanish version of this form is provided also for the Engineer's use in these interviews.
2. Determine by spot interview that each employee is paid at least the minimum hourly rate described for his classification that is contained in the contract and that each employee on the project is either on the Prime Contractor's payroll or on an approved Subcontractor's payroll. **Trucking firms may not be required to submit payrolls (see information regarding trucking in this section).** Verification of the information gathered during the employee interview should be made by comparing the information gathered during the interview with the payroll in effect on the interview date.
3. Furnish the required Federal Aid Posters with regard to employment and wages to the Contractor and require these posters be displayed on the project on a weatherproof bulletin board along with a copy of the minimum wage rates and the Contractor's EEO policy statement. U.S. Department of Labor's website has a listing of required job site posters for NCDOT Federal Aid projects: http://www.dol.gov/oasam/programs/osdbu/sbrefa/poster/matrix.htm. Additional information regarding the posters can be found in the Records and Reports Section of this Manual.
4. Maintain a record in the project files of the individual interviews made to determine job classification and wage rate compliance.

In addition to the above, the Engineer is expected to listen to any and all complaints by Contractor's employees with regard to proper classification and payment. When employees make complaints, the Engineer is expected to take investigative action he considers necessary to determine the validity of the complaint and submit his findings together with recommendations to the Division Engineer and the State Construction Engineer for further handling.

If there is any need for clarification and/or interpretation of any problems concerning labor compliance, the Engineer shall refer to the appropriate chapters of the Labor Compliance Manual and contact the Central Construction Unit.

Annual EEO Report

In addition to the weekly payrolls, the Federal Provisions (FHWA 1273) also require the Contractor to submit an annual EEO Report (FHWA 1391) for each that is active during the month of July. Information related to this can be found in the Records and Reports Section of this Manual.

107-24 RIGHT OF THE CONTRACTOR TO FILE A VERIFIED CLAIM

General Statute 136-29 provides that if the Contractor fails to receive in the final estimate payment such settlement as he believes he is entitled, he may accept such payment, then, within sixty days of receipt of the final estimate, file with the State Highway Administrator a verified claim for an amount to which he feels he is entitled under the terms of the contract. Within ninety days after receipt of the Contractor's verified claim, the State Highway Administrator and his staff review the claim. On the basis of this review, a settlement is offered to the Contractor or the claim is denied.

107-25 HAZARDOUS, CONTAMINATED, AND/OR TOXIC MATERIAL

When the Contractor exposes or encounters conditions which may indicate the presence of hazardous, contaminated, and/or toxic material, the Contractor shall immediately suspend operations and notify the Engineer. The Resident Engineer shall notify the Division Engineer and the Geotechnical Engineering Unit to obtain information regarding the procedure for testing the site. The Contractor shall not be allowed to resume his operations at the site until directed by the Resident Engineer.

If the investigation reveals hazardous, contaminated, and/or toxic material which is to be disposed of, the work may be performed by others under a separate contract or may be performed by the Contractor at the contract prices or as extra work. This determination will be made by the Engineer.

Form FAP-1

PRIME CONTRACTOR AND APPROVED SUBCONTRACTORS

PROJECT NO.: _____ WEEK ENDING: _____

COUNTY: _____

Payrolls for the Contractors listed below and shown as active are attached. In addition, all corrected payrolls are attached. All payrolls have been checked by _____.

	ACTIVE	INACTIVE
PRIME CONTRACTOR		
APPROVED SUBCONTRACTORS		

Signed_____

Printed Name_____

Title_____

Form FAP-2

Project Number: _____
F. A. Number: _____
County: _____

Description: _____

Subject: Wage Violation

Contractor: (Name and Address)

Gentlemen:

Upon review of (Name of Contractor) payroll, for the week ending _____, the following discrepancy was found. (Description of discrepancy)

In view of the errors or violations noted above, it will be necessary for you to investigate and report your findings to this office. If the error or violation has resulted in an underpayment to an employee, it will also be necessary for you to do the following:

1. Ascertain the correct amount of any pay that is due the employee and make payment.
2. Prepare a corrected payroll.
3. Prepare a letter of explanation, giving your reasons in detail why the underpayment occurred. Do not use such phrases as "due to error" or "due to oversight," without further explanation. An example of an appropriate explanation is as follows: "The total hours worked were incorrectly added on the foreman's time card and the payroll clerk failed to catch the error."
4. List corrective measures you have taken to prevent a reoccurrence. This must also be in detail. An example of an appropriate explanation is as follows: "All transferred data from time cards and payroll calculations are now being double checked by a second person."
5. Transmit the corrected payroll, your letter of explanation, and evidence of payment, where underpayment has occurred. Evidence of underpayment may be a copy of the canceled check to the employee or a copy of a statement signed by the employee stating that he has received the underpayment. This statement shall also show the amount of payment received by the employee

Yours very truly,

Resident Engineer

cc-(Division Engineer)
(State Construction Engineer)

Form FAP-3

Project Number: _____
F. A. Number: _____
County: _____

Description:
_____

Subject: Status of Wage Violation

MEMORANDUM TO: (Name)
Division Engineer

FROM: (Name)
Resident Engineer

By letter dated (date), (Contractor's name) was advised of the wage violation(s) committed. I have since received a letter of explanation from the Contractor including verification that proper payment has been made.

I have reviewed the violation and have determined the following:

(1) The classification of each employee involved is correct and the correct wages have been paid.
(2) The employee(s) involved have been interviewed and now feel that they receive their proper wages.
(3) Other: (Explain)

It is my judgment that the underpayment was non-willful and the violations were caused inadvertently, notwithstanding the exercise of due care.

cc:
(State Construction Engineer)

Attachments

This Page Left Blank Intentionally

Wage Interview Form

Contract Number: _____

Division and County: _____

Prime or Subcontractor: _____

Company Name: _____

North Carolina Department of Transportation

Subject: Interview of Wages and Hours

First and Last Name: _____

Street Address _____
City: _____ State _____
Zip Code: _____

Telephone Number: _____

Name of Company (your employer): _____

How long have you worked for this company? _____

Date you were hired? _____

Job Classification(s) _____

Hourly Wage _____

Are you paid by check or paid in cash? _____

Are taxes deducted from your pay? _____

Who pays you? _____

Do you work more than 40 hours per week? _____

Do you receive over-time pay for working more than 40 hours? _____

Who is your supervisor? _____

How many hours did you work last week? _____

List deductions from your paycheck. Have you authorized or are you in agreement with the deductions listed?

My employer has my permission to review this information. _____

Signature: _____

Date: _____

Interviewer : **_____** ***Date*** **_____**

Interviewer evaluation:

Are certified payrolls required for this project? _____

*Exempt projects are those located on a roadway classified as a local road or rural minor collector. If this is an exempt project, do not complete the remainder of this form.

Is the employee properly classified for work performed? _____

Is this classification included in the contract? _____

What is the wage rate required by the contract? _____

Does the certified payroll information submitted by contractor agree with the information provided by the employee interviewed? _____

Does it agree with the contract wage requirements? _____

List the week ending of the payroll checked: _____

Name of the payroll checker: _____

Wage Interview Form

Project Number: _____
Division and County: _____
Prime or Subcontractor? _____
Company Name: _____

El Departamento de Transportacion del Carolina del Norte
Asunto: Inspeccion de pagos y horarios

Nombre y Apellido_____
(First and Last Name)
Direccion de calle_____
Ciudad_____Estado_____
Codigo postal_____
(Street address, City, State, and Zip Code)
Numero de telefono **_____**
(Telephone Number)

Nombre de este compania (su empleador)_____
(Name of the Company you work for)
¿Quanto tiempo trabaja por esta compania?_____
(How long have you worked for this company?)
Fecha de empleado **_____**
(Date you were hired)
Classificacion de trabajo_____
(Job Classification)
Pago por la hora _____
(Hourly Wage)
¿Son Usted pago por cheque o al contado?_____
(Are you paid by check or paid in cash?)

¿Son los impuestos descontados de su paga?_____
(Are taxes deducted from your pay?)

¿Quien le paga?_____
(Who pays you?)

¿Hagale trabajo mas de 40 horas por la semana?_____
(Do you work more than 40 hours per week?)

¿Hagale recibe el tiempo y medio para trabajar mas de 40 horas?_____
(Do you receive over-time pay for working more than 40 hours?)

¿Quien es su supervisor?_____
(Who is your supervisor?)

¿Quantas horas le hicieron trabaja la semana pasada?_____
(How many hours did you work last week?)

Lista de deducciones en su salario. ¿Usted autorizo o está de acuerdo con esta lista de deducciones?
(List deductions from your paycheck. Have you authorized or are you in agreement with the deductions listed?)

Mi empleador tiene permison para revisor esta informacion. _____
(My employer has my permission to review this information.)

La Firma (Signature)_____

La Fecha (Date)_____

Interviewer:_____Date_____
Interviewer evaluation:
Are certified payrolls required for this project?_____
*Exempt projects are those located on a roadway classified as a local road or rural minor collector. If this is an exempt project, do not complete the remainder of this form.

Is the employee properly classified for work performed?_____
Is this classification included in the contract?_____
What is the wage rate required by the contract?_____
Does the certified payroll information submitted by contractor agree with the information provided by the employee interviewed?_____
Does it agree with the contract wage requirements?_____
List the week ending of the payroll checked_____
Name of the payroll checker:_____

SECTION 108
PROSECUTION AND PROGRESS

108-1 GENERAL

The Contractor is responsible to begin work either on the date of availability or within a reasonable time thereafter and pursue the work diligently with such forces as will enable him to complete the project by the completion date. The importance of this requirement lies in the fact that the Contractor's failure to comply with these provisions may be grounds for forfeiture of extensions in the completion date to which he might otherwise be entitled, (See Article 108-10 of the Standard Specifications and this Manual,) the withholding of liquidated damages from monies due and/or the removal of the Contractor from the Department's list of prequalified bidders. If the Resident Engineer determines the Contractor will not be able to complete the project by the completion date, he shall advise the Contractor of this determination in writing and during construction conferences (See Article 108-4 of the Standard Specifications). When discussed at construction conferences, specific written documentation shall be made a part of the construction conference minutes. This will provide the Contractor an opportunity to rebut and provide documentation of extenuating circumstances during the course of the work. The Resident Engineer shall also indicate "Unsatisfactory Progress" in the project diary (See Records and Reports Section of this Manual).

The Contractor may begin work on the project prior to the date of availability if a progress schedule has been submitted and approved; however, consideration should be given to the effect that beginning prior to the date of availability will have on the public and cost to the Department. Allowing work to begin prior to the date of availability without a change in the completion date is essentially an extension of the completion date.

As soon as practical after the Contractor initially begins work on a project, the Engineer shall notify the Contractor in writing, with copy to the State Construction Engineer, when the estimate period ends. (See Records and Reports Section of the Manual.) This notice shall also include the date work began.

108-2 PROGRESS SCHEDULE

After the award of the contract, the Contractor shall submit a progress schedule to the Engineer no later than 7 days prior to the preconstruction conference. The progress schedule shall consist of a time scale diagram with major contract items and milestone dates clearly labeled and a narrative explaining the construction sequence. The time scale diagram shall be submitted on forms supplied by the Engineer or in a format that is approved by the Engineer. A detailed Critical Path Method (CPM) schedule shall not be submitted to replace the progress schedule details required below. (See Records and Reports Section of this Manual for examples of both the time scale diagram and written narrative.)

The purpose of the schedule is to provide Department personnel with the Contractor's general plan, and to assist in determining, during the course of the work, whether the Contractor's progress is satisfactory or unsatisfactory. The latter determination directly affects the Contractor's status on the prequalified bidders list. (See Article 108-8 of the Standard Specifications.)

Approval or disapproval of the schedule is the responsibility of the Division Engineer. In making this decision, he should consult with the Resident Engineer. Consideration should be given to: (1) the compatibility of the progress schedule with the construction schedule in the case of separate contracts requiring Construction Schedules; (2) a mathematical check of the percentages; (3) compliance with the terms of the contract; and (4) reasonableness and practicality of the schedule.

Any acceleration of the progress, as shown by the contractor's progress schedule over the progress shown in the "Schedule of Estimated Completion Progress" in the contract shall be subject to the approval of the Engineer.

The Division Engineer should notify the Contractor in writing of his approval or disapproval of the schedule, with copies of the notification and progress schedule sent to the Resident Engineer and the State Construction Engineer.

The Specifications allow the Contractor to submit a revised progress schedule if the Engineer has extended the contract completion date or the project overrun is anticipated to exceed 5%. Regardless, the schedule must reflect completion of the work by the revised completion date. The Specifications also allow the Contractor to submit a revised progress schedule if plan revisions are anticipated to change the sequence of operations in such a manner as will affect the progress but not the completion date. In this case, the Contractor may submit a revised progress schedule for review and approval but the completion date shall remain unchanged.

The Contractor's detailed request and proposed schedule, together with a recommendation from the Division Engineer, shall be transmitted to the State Construction Engineer for this determination. The approval or disapproval of a revised progress schedule will be made by the State Construction Engineer to maintain statewide consistency.

Progress Payout Schedule

Projects with a contract amount greater than $50 million, the Contractor is required to submit an Anticipated Monthly Payout Schedule (Payout Schedule) prior to beginning construction. The payout schedule is used by the Department to monitor the funding levels of the project. The Payout Schedule shall provide a monthly percentage breakdown of payouts, based on the contract amount of anticipate completed work. The Payout Schedule should cover the anticipated work from the date the Contractor plans to begin construction to the anticipated completion date. The Contractor is required to submit updates of the Payout Schedule on March 15, June 15, September 15 and December 15 of each calendar year until the project has been accepted. The Contractor should submit the original Anticipated Monthly Payout Schedule and each quarterly update to the Resident Engineer and a copy to the State Construction Engineer.

108-3 PRECONSTRUCTION CONFERENCE

For detailed information and examples for the Preconstruction Conference see the Records and Reports Section of this Manual.

108-4 CONSTRUCTION CONFERENCES

For detailed information and examples for Construction Conferences see the Monthly Meeting in the Records and Reports Section of this Manual.

108-5 CHARACTER OF WORKMEN, METHODS, AND EQUIPMENT

The Contractor is required to provide sufficient personnel and equipment to complete the work in accordance with the contract. He is prohibited from employing anyone determined by the Engineer to have engaged in fraudulent activities. Determination that an employee has engaged in fraudulent activities is a very serious matter and will be made by the Chief Engineer-Operations after consultation with the State Construction Engineer.

The Engineer has the authority to have removed from the project any employee of the Contractor or Subcontractor who ". . . does not perform his work in a proper and skillful manner or is disrespectful, intemperate, or disorderly . . . ." Should this problem arise, consideration should be given as to whether the circumstances affect the quality and/or progress of the work or the safety and well-being of project personnel. When any one of these proves to be the case, then every means possible should be explored to resolve the matter at the project level without resorting to personnel removal. If the problem persists, the Resident Engineer shall prepare a complete written report to the Division Engineer. The Division Engineer shall make the final decision in the matter keeping the Chief Engineer-Operations currently advised as to the status of the situation.

The Engineer also has the authority to have equipment removed from the project which does not produce satisfactory quality work or which may cause ". . . damage to the roadway, adjacent property, or other highways . . . ." Prior to ordering the removal of equipment due to the above cause, the Resident Engineer must have some documentary or Specification evidence to support his actions. This may include, but not be limited to, the following:

1. Finite measurement or test results or visual determination that unsatisfactory results are being obtained and that these results are attributable to the equipment.
2. Damage to the roadway or other highways. (See Article 105-15 of the Standard Specifications.)
3. Damage to private property - (See Article 107-11 of the Standard Specifications.)

If the Engineer has any questions as to whether equipment should be removed, he may seek the advice of the field representative of the Roadside Environmental, Materials and Tests, and Geotechnical Units, and/or the appropriate Construction Engineer.

Where practical, the Specifications are written as an "end result specification." That is to say that methods, equipment, and procedure are left to the Contractor's ingenuity with the basis of acceptance being recorded tests results and visual examination of the finished product. This places an increased responsibility on the Engineer and Technician to see to it that sampling, testing, and inspection procedures are strictly adhered to. The Engineer and Technician must thoroughly familiarize themselves with the Specification requirements for acceptance of these items so that they can confirm whether or not the Contractor's procedures are producing a satisfactory end product.

The Specifications also provide that where methods, procedures, and equipment are specified, the Contractor may change these with no revision in the contract unit price if approved by the Engineer. If such a request is made by the Contractor, the Resident Engineer should first make his own determination as to whether the revised procedures

would (1) result in a satisfactory end product, (2) provide access for proper inspection, sampling and testing, and (3) not adversely affect any other operations. He should then transmit the Contractor's request together with his recommendation to the Division Engineer for further handling with the State Construction Engineer. In the case of minor or emergency changes, approval may be secured from the State Construction Engineer by telephone.

The Contractor's procedures must produce a finished product that conforms with the terms of the contract.

108-6 SUBLETTING OF CONTRACT

The Contractor is permitted to sublet a portion of the work when approved in writing. The Contractor is required to perform not less than 40% of the total original contract amount with his own organization, except when specialty items and Disadvantage Business Enterprise/Minority Business/Women Business goals are included in the contract. The Contractor is not permitted to perform less than 35% of the difference between the original bid amount and the value of the specialty items. Materials purchased by the Prime for the subcontractor cannot be counted as work performed by the Prime.

The Contractor is required to submit a Subcontract Approval Form (SAF) to the Resident Engineer or Contract Administrator for each subcontractor and/or second tier subcontractor. Submittals of all proposed subcontractors shall be submitted to the Resident Engineer or Contract Administrator within 30 days of the contract date of availability or expiration of 20% the original contract time, whichever time is greatest. The early submission of the Subcontract Approval Forms allows the Resident Engineer or Contract Administrator to monitor the percentage of work being self-performed by the Prime Contractor from the beginning of the project. The Subcontract Approval Form can be found on the Construction Unit web page under Construction Resources at the following web link.

https://connect.ncdot.gov/projects/construction/Pages/default.aspx

Other requirements of the subletting work are as follows. The subcontractor and/or second tier subcontractor submitted must currently be a prequalified contractor or subcontractor. Use the Directory of Transportation Firms, located on the NCDOT web page, to verify the subcontractor’s prequalification status. When required, the Contractors shall submit a certified copy of the actual executed Subcontract Agreement, if requested by the Resident Engineer or Contract Administrator. For projects with Federal Funding, the FHWA 1273 “Required contract Provisions”, must be included in its entirety as part of the actual Subcontract Agreement

Failure to comply with the requirements of the Specifications of this article may be justification to remove the Contractor from the Bidder’s List.

Additional information regarding subletting of the contract, calculating percent performed by Prime, FHWA 1273, and the SAF can be found in Records and Reports section of this manual.

108-7 TEMPORARY SUSPENSION OF THE WORK

The Engineer has the authority to suspend the Contractor's operations. No extension of the completion date is allowed due to the suspension except as provided in Article 108-10 of the Standard Specifications. The Engineer should make his decision to suspend operations after all other means to resolve the problem have been exhausted.

Except in emergency situations, the Engineer shall consult with the Division Engineer before suspending the work. If a suspension order is imposed, the Engineer shall notify the Contractor and the Division Engineer in writing with a copy to the State Construction Engineer.

Article 104-4 of the Specifications outlines the conditions for additional compensation when the Contractor experiences idle equipment and/or idle labor during a suspension or alleged suspension.

108-8 FAILURE TO MAINTAIN SATISFACTORY PROGRESS

This article of the Specifications defines unsatisfactory progress on the part of the Contractor and sets forth the sanctions that may be invoked for unsatisfactory progress.

The procedures for computing the percent of contract time and current contract amount required under this article are included as a part of the procedures for preparing monthly estimates in the Records and Reports Section of this Manual. HiCAMS will calculate the percent of work complete.

The decision to withhold anticipated liquidated damages from partial pay estimates will be made by the State Construction Engineer. **The Resident Engineer should make his recommendation on the liquidated damages tab of the partial pay estimate that indicates unsatisfactory progress.** For the Department policy relative to the withholding of anticipated liquidated damages, see Article 108-11 of this Manual.

The Department's procedure for monitoring project progress was revised by Mr. W. S. Varnedoe's memorandum dated September 22, 2008. The intent of the new procedures is to enhance our project management with regard to project completion and to have effective communication start earlier between the Department and the Contractor as projects begin to fall behind schedule. The revised procedure states that when five percent (5%) of the contract time has expired or when a project is 10% behind schedule, by time or money, the Division Engineer writes a "Letter of Concern" to the Contractor. The letter should establish a meeting date between the Division Engineer and the Contractor to discuss the project schedule and require the Contractor to provide written explanation of how the project completion date will be achieved. **(A sample Letter of Concern is included at the end of this section.)** If the Contractor's progress then becomes 15% or greater behind schedule, the State Construction Engineer will write the Contractor a "Show Cause Letter". This letter will establish a meeting between the State Construction Engineer, the Division Engineer and the Contractor. The letter should require the Contractor to provide written explanation of how the project completion date will be achieved and why the contractor should not be removed from the NCDOT Prequalified Bidders List. .

The Chief Engineer will make the final decision as to whether a Contractor shall be removed from the Department of Transportation's list of prequalified bidders.

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 7, 2009

WBS Element: 12345.3.1
Contract No.: C123456
T. I. P. No.: U-5999
County: Blueridge
F. A. Project No.: STM-1111
Description: "Bridge Over the Red River with Approaches on US 174"

Mr. C. C. President
ABC Contracting Company
P.O. Box 1234
Somewhere, Stateside 33333-1234

Dear Mr. President:

The Department has become concerned with the progress of the work on the above captioned project. If the pace of the progress is not increased, we are concerned as to whether or not the project can be completed by the completion date. As of the last estimate dated September 18, 2009, the project was 6.24% complete with 26.7% of contract time being elapsed. The progress chart shows that you should be 22% complete. This places the project over 10% behind by schedule and dollars.

In an effort to help with the progress, we have scheduled a meeting for Wednesday, October 21, 2009 at 2:00 pm, at the Division Office. We would like for you to provide us with an explanation of how the project completion date of December 15, 2010 will be achieved. Please provide realistic target dates of all major project operations remaining. If you have any questions please contact Mr. D. C. Engineer, P. E., Division Construction Engineer, at (919) 252-6789.

Sincerely,

I. M. Engineer, P. E.
Division Engineer

cc: State Construction Engineer
Roadway/Bridge Construction Engineer
Resident Engineer

NC DEPARTMENT OF TRANSPORTATION
Division Office
222 Division Road
Great, North Carolina 55255

Phone
(919) 252-6789

Fax
(919) 252-7890

108-10 CONTRACT TIME

(A) GENERAL

By definition, contract time is "the number of calendar days inclusive between the date of availability and the completion date, as set forth in the special provisions, including authorized extensions to the completion date." The Engineer shall be familiar with all aspects of these provisions of the Specifications.

(B) COMPLETION DATE, INTERMEDIATE COMPLETION DATE, AND INTERMEDIATE COMPLETION TIME EXTENSIONS

It is the policy of the Department to fairly evaluate the Contractor's requests for extensions of completion dates. The Department should review within forty days any request submitted by the Contractor for extension of contract time and notify him of the determination in writing. It is not acceptable to delay making a decision until it can be determined whether an overrun of the contract time will occur as this delay may require the Contractor to incur additional cost in an effort to complete the work by the original completion date. The following represent guidelines to assist in determining whether there are valid grounds for extending the completion date. These are numbered in the same sequence as outlined in the Specifications.

1. This item provides for what is commonly referred to as pro rata extensions of the completion date or intermediate completion time. The extension allowed is directly proportional to the percentage of the adjusted dollar value overrun (contractual overrun) of the contract.

Example:

Final contract amount	$1,100,000
Original contract estimate	1,000,000
Overrun	100,000
Dollar value of supplemental agreements extending the completion date	$ -40,000
Net overrun	$ 60,000

Contract time (determined from Special Provisions) 302 calendar days

Extension of completion date:

$$\frac{\$60{,}000}{\$1{,}000{,}000} \times 302 \text{ days} = 18.12 \text{ days} *$$

*Any fraction is rounded up to the next whole (e.g., 18.12 days = 19 days)

2. Extensions of time as allowed by supplemental agreements for performing extra work may also be extended by pro rata calculations. A similar calculation may be used relative to intermediate completion times. In this case it is necessary to make a quantity takeoff to determine the dollar value of work originally contemplated in the

intermediate phase and the final dollar value of the work. The intermediate contract time to be pro rated is determined from the special provisions. A copy of these quantities and extension of the amounts shall be submitted with the final estimate.

Example:

Final dollar value of extra work	$55,000
Estimated dollar value of extra work	- $50,000
Overrun of extra work	$5,000

Extension allowed by supplemental agreement: 10 calendar days

Pro rata extension allowed for overrun of supplemental agreement

10 calendar days: $\frac{\$5{,}000}{\$50{,}000} \times 10 \text{ days} = 1 \text{ day} =$ *1 calendar day*

Revised extension allowed by supplemental agreement = 10 + 1 = 11 calendar days.

Extensions in contract time are provided by supplemental agreements when the extra work becomes the controlling operation. In some situations, the controlling operation is affected during the negotiation and execution of the supplemental agreement in addition to the time the actual work is performed. Article 108-10(B)3 of the Standard Specifications permits extensions in contract time for the delays during the negotiation and execution of the supplemental agreement. Extensions in contract time for the time required to perform the work are allowable per Article 108-10(B)4 of the Standard Specifications.

Differentiation of this approval becomes especially critical when extensions in contract time are granted as part of the supplemental agreement for both delays during negotiation and execution of the supplemental agreement and performance of the extra work. Pro rata extensions in contract time for any overruns of the supplemental agreement work should be based solely on the time granted for the work performed and not the total time granted when it includes time for delays during negotiation and execution.

Example: Installation of storm drainage is underway for Intermediate Contract Time Number 1 when a line of existing storm drainage not shown on the plans is discovered on May 1st. Storm drainage installation is halted while the existing line is investigated. The line is found to be functional and a decision is made to install a special junction box to tie-in the existing line to the proposed line. Designs for the special box are provided to the Contractor on May 7th. Supplemental Agreement Number 8 is negotiated for the extra work and the Contractor is advised to proceed with the work on May 10th. Storm drainage installation is the current controlling operation for Intermediate Contract Time Number 1 during the period of the delay.

In this situation, it is appropriate to extend the contract time for Intermediate Contract Time Number 1 nine calendar days for the period from the date the controlling operation was suspended (May 1st) to the date the Contractor was advised work could resume (May 10th). The Contractor is

due an additional extension in contract time in accordance with Article 108-10(B)4 of the Standard Specifications for the performance of the extra work.

3. To be a valid cause for an extension of the completion date, there are four basic criteria which must be met.
    1. **The current controlling operation must have been delayed**. Current controlling operation is defined as "any operation or operations, as determined by the Engineer, that if delayed would delay the completion of the project." This determination will necessitate a thorough review of the status of the project at the time the alleged delay occurred.

        Consider a project involving only fine grading and base course construction. The fine grading operation is a controlling operation until such time as a sufficient length of the project has been fine graded such that the Contractor might reasonably be expected to commence base course operations. From that point on, any delay that would subsequently delay the base course operations would be delaying the completion of the project. Of course, very few circumstances are as simple as the one described above. However, using this principle with **sound Engineering judgment** will result in decisions that are equitable to both the Department and the Contractor. There will be instances where more than one operation may be considered a controlling operation. In any event, **it must be shown that the completion of the project was delayed** before the affected operation can be considered as a controlling operation.
    2. **The delay to the controlling operation must have developed from circumstances originating from the work required under the contract**. In effect this requirement invalidates any request from the Contractor arising from delays on other projects or from any other delays whatsoever except those attributable to work required by the contract.
    3. **The Contractor must have pursued the work in accordance with Article 108-1 of the Standard Specifications.** Article 108-1 of the Standard Specifications provides that the Contractor must pursue the work diligently and with sufficient workmen, equipment, materials, and methods as may be required to complete the project by the completion date.
    4. **Any delays must have been caused by circumstances beyond the Contractor's control and without his fault or negligence**. Examples of "circumstances" which may be valid under this provision would include, but not be limited to, the following:
        A. Plan revisions originated by the Department of Transportation.
        B. Revision of material requirements originated by the Department of Transportation.
        C. Department of Transportation stakeout error.
        D. Failure of the Department of Transportation to provide stakeout at the appropriate time.
        E. Failure of the Department of Transportation to approve required shop drawings submitted by the Contractor within a reasonable period of time.
        F. Failure of the Department of Transportation to provide inspection of the work and/or materials within a reasonable period of time.

G. Failure of the Department of Transportation to secure right-of-way except as may be described in the Project Special Provisions.
H. Failure of the Department of Transportation to provide a reasonable work site by the contract date of availability.
I. Acts of God (See Article 101-3 of the Standard Specifications.)
J. Actions or inactions on the part of another Contractor performing work for the Department of Transportation within or adjacent to the project.
K. Strikes by the Contractor's forces or those forces of material producers, fabricators, haulers, etc.
L. Freight Embargoes
M. Shortage of materials due to national emergency or general industrial conditions.
N. Utility conflicts to be resolved by others and the operations by others of removing and/or adjusting said utilities if the time involved is beyond that which might have been reasonably anticipated.
O. Weather conditions as permitted within the text of this Specification article.

For those items (K), (L), and (M) above, the Contractor should submit evidence (copies of correspondence, requisitions, etc.) that he has attempted to secure materials from a reasonable number of sources. Delays as listed under this item are not limited to those which might result in a complete shutdown of the work. Consideration may also be given for loss of efficiency to controlling operations.

For item (O) consider a project with a date of availability of June 1, 2005, an original completion date of June 1, 2006, and a revised completion date of July 1, 2006. The number of calendar days to be considered for delays caused by the effects of weather would be those between June 1, 2005, and December 15, 2005, (198 calendar days), and March 16, 2006, and July 1, 2006, (108 calendar days), or a total of 306 calendar days. Therefore, if the current controlling operations were delayed by weather within the periods of time shown above in excess of 40 percent or 123 calendar days, the Contractor would be entitled to an extension of the completion date. Therefore, if adverse weather affected the controlling operation(s) on this project for a total of 140 calendar days, the contract completion date would be extended 17 calendar days (140-123=17).

In considering requests of this nature, it should be remembered that the controlling operations could not have been delayed by weather if he has failed to begin work unless he has provided documentation that weather has prevented him from beginning or continuing the work. Consideration for extension of the contract time due to weather can not be given until expiration of the contract time which includes any authorized extensions.

Listed below are examples of "circumstances" which generally will not be considered as beyond the control and without fault or negligence of the Contractor:

1. Actions or inaction on the part of Subcontractors
2. Labor shortages
3. Local material shortages
4. Failure on the part of material suppliers to supply materials at an anticipated

rate or quantity except as may be allowed under (K), (L),and (M) above.

5. Equipment breakdowns

If the Contractor requests an extension of the completion date or completion time, he must provide the information stated in the first paragraph of this Article. This includes stating the number of calendar days or hours he is requesting. On occasion during his review of the Contractor's request, the Engineer may determine a greater time extension is warranted than has been requested. It is appropriate for the Engineer to extend the time by the amount warranted even though it is **more** than the Contractor requested.

Example: Clearing and grubbing operations were underway when the Contractor encountered a suspected protected species. The Engineer suspended excavation operations on Friday, June 14th. An investigation was performed, and the species was determined not to be protected. On the following Thursday morning the Contractor was advised clearing and grubbing operations could resume. The Contractor submitted a request for an extension in contract time of five days.

It is appropriate to extend the contract time six calendar days for the period from the date the controlling operation was suspended (June 14th) to the date the Contractor was advised work could resume (June 20th) even though this is more time than requested by the Contractor.

Example: A project encompasses the replacement of an existing bridge along a two lane road. The project is limited to the bridge site plus the approaches on either end. Existing traffic will be detoured during construction.

The Project Special Provisions state an overhead utility line will be relocated prior to the date of availability. However, relocation of the utility line is not complete until four weeks after the date of availability. Because of the scope of work included in the contract, no work could begin until the utility relocation work was complete. The Contractor mobilized and began construction seven days after the conflict was cleared.

The Contractor has suffered a delay that was beyond his control and without his fault or negligence. In this situation, it is appropriate to extend the contract time for the period from the date of availability through the date the utility relocation work is complete utilizing a Department initiated claim.

In this claim it is appropriate to further extend the contract time to allow for a reasonable period of time for mobilization. The amount of time granted would be based on the magnitude of the project and the equipment required to begin work. In no case should the amount of time granted be more than the actual amount of time to complete the initial mobilization of the controlling operation.

Any extensions in contract time beyond those stated above could be considered; however, the Contractor must make this request in writing stating the dates he is requesting and justifying the time requested. An example for additional mobilization time would be a situation where the Contractor can document that his forces were unavailable when the conflict was cleared and the reason the forces were unavailable was the result of the delays.

Example: A project provides for the widening of an existing road from a two lane section to a five lane section. The project is located in an urban area and several utilities exist along both sides of the roadway.

The Project Special Provisions state the aerial telephone and electrical lines will be relocated prior to the date of availability. The Project Special Provisions further state the Contractor will work around the existing water and sewer lines and make tie-ins as necessary.

Upon the date of availability, the electric company has installed new poles and moved their lines. However, the telephone company has not yet moved their lines to the new poles. The Contractor elects to begin work despite having to perform his clearing and grubbing operation around the existing aerial utility lines. The Contractor submits a request for an extension in contract time due to having to work around the existing utilities.

After determining the Contractor's controlling operation for the period of the alleged delay, the Engineer must determine whether this operation was delayed as a result of the utility conflicts. Judgment must then be used to determine how the utility conflict affected the Contractor's operation. Upon reviewing the diary, the Engineer can make an estimate as to the percentage the Contractor's controlling operation was delayed. This percentage should then be applied to the total calendar dates the controlling operation was performed while delays were existing (including weekends, holidays, and wet weather when the Contractor was not working) to determine the extension in contract time due the Contractor.

As an exception to these requirements, extensions in contract time may be granted **without** a written request from the Contractor when delays have occurred that are clearly beyond the Contractor's control and without his fault or negligence and these delays are documented in the project records. The Engineer may initiate an extension in contract time when in his opinion such an extension is justified. It is the Engineer's option to require the Contractor to submit his request in writing. When the Department has not extended the completion date or completion time and the Contractor believes an extension is warranted, it is the Contractor's responsibility to make the request.

Example: The Contractor completed all known work on July 1st. Because of scheduling conflicts, the Department was unable to hold the final inspection until July 7th. During the final inspection, minor recommendations were noted. The Contractor completed all recommendations on July 8th.

The Contractor has suffered a delay that was beyond his control and without his fault or negligence. In this situation, it is appropriate to extend the contract time six calendar days for the period from the date the project was available for the final inspection (July 2nd) through the date the final inspection was held (July 7th) through a Department initiated claim.

4. This item of the Specifications provides that extensions of the completion date may be allowed for changes in the work that result in reduction in quantities, elimination of items, additional work, and/or extra work. Reduction of quantities and elimination of items sometimes result in a substantial reduction of the total dollar value of the contract thereby offsetting overruns of other items in the contract. Consideration can be given for an extension in the completion date when these reductions have occurred in items which would not have substantially affected the time necessary to complete the project. Extensions in this situation would generally be limited to the theoretical pro rata time as might have been allowed by the dollar value of the reduction. There

are no step by step procedures to follow in making this determination as it must be based upon a thorough review of the project progress and sound Engineering judgment. The timing of those changes which result in additional work is of the utmost importance. If changes in the work which result in additional work are made at a time such that the Contractor cannot complete the affected work by the completion date **and this delays the completion of the project**, consideration must be given for an extension of the completion date. Consideration in this situation must be given to the time by which the project completion was delayed by the additional work versus the theoretical pro rata time allowed by the dollar value of the additional work. The Contractor may be eligible for an extension in contract time when his controlling operation has been delayed but not stopped as a result of circumstances that were beyond his control and without his fault or negligence. The Engineer must use judgment to determine the effects of the delay and the extension in contract time due the Contractor.

Example: The Contractor requests an extension in contract time for Intermediate Contract Time Number 1. The request is found to be legitimate. During the Engineer's review of the Contractor's request, he determines completion of Intermediate Contract Time Number 1 affects completion of the total project.

It is appropriate to extend the contract completion date **and** the completion date for the Intermediate Contract Time Number 1 even though the Contractor only requested an extension in contract time for Intermediate Contract Time Number 1.

An extension of the contract time may be warranted because the additional time (pro rata) allowed for overruns is not realistic of the time required to perform the work. This article requires the use of Engineering judgment to determine the effect that variations from the bid quantities have upon the time required to complete a project. Consideration may be given for an extension of the completion date due to additional or extra work. The amount of time to be allowed for such work will be dependent upon the anticipated delay in completion of the project caused by the extra work versus the theoretical pro rata time as might be allowed by the estimated dollar value of the work. Negotiations with the Contractor must be resolved prior to performing the work. Where practical, it is the best procedure to resolve the question of time extensions at the time the supplemental agreement is negotiated. This is normally documented by the statement that the completion date will be extended by a specific amount or will be extended in accordance with Article 108-10(B)1 of the Standard Specifications. When the completion date is to be extended by a specific amount of time, the amount of time to be allowed is not necessarily the time required to perform the work. Unless the work will be the controlling operation or will require forces that would normally be performing work on the controlling operation, an extension of the completion date beyond that provided by Article 108-10(B)1 of the Standard Specifications is not normally allowed. When an agreement cannot be reached regarding the time extension to be allowed, the supplemental agreement should provide for consideration after performance of the work.

While an extension of the completion date is never justified due to the reduction in quantities or the elimination of items alone, such reduction in quantities and elimination of items sometimes result in a substantial reduction of the total dollar value of the contract thereby offsetting overruns of other items in the contract.

Consideration can be given for an extension in the completion date when these reductions and/or elimination have occurred in items which **would not have** substantially affected the time necessary to complete the project and the overruns have occurred in items which **have** substantially affected the time necessary to complete the project. Extension of the completion date in this situation would generally be limited to the theoretical pro rata time as might have been allowed by the dollar value of the reductions in items which **would not have** substantially affected the time necessary to complete the project less the dollar value of the overruns of all items which **have not** substantially affected the time necessary to complete the project. There are no step by step procedures to follow in making this determination as it must be based upon a thorough review of the project progress and upon sound Engineering judgment.

Example: A project provides for the rehabilitation of a highway including bridges and roadway. The bridge rehabilitation included in the contract could have been performed in approximately half the time as the proposed roadway rehabilitation and would never have been the controlling operation. Class I and Class II Surface Preparation underran significantly representing 9% of the original contract amount. Milling Asphalt Pavement and Asphalt Concrete Intermediate Course, the controlling operations during the majority of time they were being performed, overran significantly representing 11% of the original contract amount. There were no significant changes in other contract items.

The underrun of the bridge items did not reduce the time required to complete the project; however, the overrun in the quantity of milling and paving increased the time required to complete the project. The extension of the completion date in accordance with Article 108-10(B)1 of the Standard Specifications is minimal because of the underrun of the bridge work. An additional 9% pro rata extension of the completion date should be allowed due to the underrun of the bridge quantities.

Example: Although the overrun of various contract items amounted to 7% of the original contract amount, the net "contractual" overrun amounted to 2.5%. Several of the contract items underran that in the opinion of the Engineer would never have been the controlling operation had the plan quantity been performed. The total dollar value of the underrun of these non-controlling items represents 4.5% of the original contract amount. In addition, the overrun other non-controlling items of work represents 3.3% of the original contract amount.

Consideration should be given for an extension of the completion date beyond the 2.5% allowed in accordance with Article 108-10(B)1 of the Standard Specifications when the overrun of controlling items of work is in excess of the "contractual" overrun. The "contractual" overrun would be adjusted by adding the underrun of non-controlling items of work and subtracting the overrun of non-controlling items of work (i.e., 2.5% + 4.5% - 3.3% = 3.7%.) The extension of the completion date would be determined by multiplying the number of calendar days included in the original contract time by 3.7%. The Contractor must provide documentation to demonstrate such and extension of contract time is justified. In order to provide uniformity in the review of such requests, the following procedures will be followed:

An extension of the completion date may be justified because the additional time allowed for overruns in accordance with Article 108-10(B)1 of the Standard Specifications is not realistic of the time required to perform the work. Evaluation of such request will be made as follows (See **Form 108-10(B)4** at the end of this Article):

Article 108-10(B)4 of the standard Specifications allows for time extensions due to additional and/or extra work that is the controlling operation when the pro-rata time extension does not adequately compensate the contractor for the time required to perform the additional and/or extra work.

When the performance of this work is the controlling operation, the extension of the completion date warranted would include a actual time required to perform the work plus non-productive time. When the work is performed in a continuous manner (not withstanding inclement weather or weekends/ holidays) and the time required to complete the work is 30 calendar days or more, the extension of the completion would be the equal to the number of calendar days from the date the work began through the date the work was completed. When the work is performed intermittently (regardless of duration of the work) **or** the time required to complete the work is less than 30 calendar days, the extension of the completion date would be the number of work days converted to calendar days. Based upon the Department's normal policy, an extension of the completion date is justified for performance of the work by converting the work days to calendar days at the ratio of 30/16. When an entire normal work day is not spent in the performance of the additional and/or extra work, reasonable judgment must be used to determine the fractional portion of the work devoted to the operation(s). **The 30/16 rule is applicable in determining the amount of time extension to be granted for the performance of work [Article 108-10(B)4] and should not be used for time extensions granted for delay [Article 108-10(B)3].**

Example: A supplemental agreement providing for the performance of extra work provides that consideration for additional contract time will be given upon request of the Contractor after performance of the work. The extra work required eight work days to perform and, upon completion, the Contractor requested an eight calendar day extension of the completion date. The Engineer confirms the work was the controlling operation, the Contractor diligently pursued the work for eight days.

Based upon the Department's normal policy, an extension of the completion date is justified for performance of the work by converting the work days to calendar days at the ratio of 30/16. Thus, a 15 calendar day extension of the completion date should be allowed.

Example: Supplemental Agreement Number 8 provides for the addition of a special junction box. The supplemental agreement states “Consideration for any additional contract time will be made upon receipt of the Contractor’s written request after completion of the affected work.” The Contractor submits a request for extension in contract time for Intermediate Contract Time Number 1 of two days for the period of time it took to perform the work. Upon review of the project records, the Engineer determines the special junction box became the controlling operation and construction of the box was completed during two working days. Based upon the Department's normal policy, an extension of the completion date is justified for performance of the work by converting the work

days to calendar days at the ratio of 30/16. Thus, two work days converts to 3.75 calendar days, which rounds to four calendar days. The completion date for Intermediate Contract Time Number 1 should be extended four calendar days even though this is **more** time than the Contractor requested.

The timing of changes which result in additional work is of the utmost importance. If additional work is added at a time such that the Contractor can not complete the affected work **without delaying the completion of the project**, consideration must be given for an extension of the completion date. Consideration in this situation must be given to the time by which the project completion was delayed due to the additional work versus the theoretical pro rata time allowed by the dollar value of the additional work.

Consideration may be given for an extension of the completion date due to the addition of extra work. The amount of time to be allowed for extra work will be dependent upon the anticipated delay in completion of the project caused by the extra work versus the theoretical pro rata time as might be allowed by the estimated dollar value of the work. It is best to finalize negotiations for time when the supplemental agreement is prepared. No consideration will be given for an extension of the completion date due to insufficient time allowed in the contract.

For time extension requests made prior to notification of the final quantities and apparent liquidated damages, the Resident Engineer has approval authority for requests of 30 days or less. The Resident Engineer cannot deny a request, he shall forward recommendations for denials of the request to the Divisions Engineer. The Division Engineer's approval and denial authority is unlimited. However, if the request is greater than 30 days the request shall be forwarded to the Bridge/Roadway Construction Engineer or if the request is greater than 90 days, the request shall be forwarded to the State Construction Engineer for review. The BCE/RCE/SCE must review the request prior to notifying the contractor of the Department's decision. It should be emphasized that the burden of proof concerning the validity of any request lies with the Contractor. He should be required to submit whatever supporting evidence is necessary to the reviewing authority. It is important that the Contractor submit the data required by this article of the Specifications before the request is considered.

5. This subarticle of the Standard Specifications allows for the extension of the contract completion date or the intermediate completion date additional days if the accumulated authorized time extensions extend the revised completion date beyond December 15 of the contract expiration date. The maximum time extension for the additional dates would be the number of days between December 15 of one year and March 15 of the following year. The number of days for the additional time extension should be added to revised the contract time or the intermediate contract time. However, if authorized contract extensions are granted for dates that are between December 15 and March 15 of the following year after the expiration of the original contact completion date, those dates shall be deducted from the additional contract time extension.

Example:

Contract Completion Date: November 1, 2009
Actual Completion Date: May 1, 2010
Authorized Time Extensions: 60 calendar days (**including a time extension for a delay from January 2, 2010 through January 17, 2010.)**

Applying the authorized time extensions to the completion date the revised completion date is November 1, 2009 + 60 days, which leads to a revised completion dated of December 31, 2009. Per Article 108-10(B)5 of the Standard Specifications , the completion date is further extended by the number of days between December 15, 2009 and March 2010 (90 days). Review of the authorized time extensions reveal that a time extension has been given for the dates between January 2, 2001 through January 17, 2010 (15 days); therefore in accordance with Article 108-10(B)5 the additional time extension is reduced 15 days to prevent granting time extensions for the same date more than once. The final revised completion date is December 31, 2009 + (90 days - 15 days), which is March 16, 2010. Therefore, 46 days (March 17, 2010 - May 1, 2010) of liquidated damages are assessable against the Contractor.

Example:

Contract Completion Date: December 30, 2009
Actual completion Date: March 1, 2010
Authorized time extensions: 30 calendar days

The authorized time extensions revise the completion date to January 29, 2010 (December 30, 2009 + 30 calendar days.) The contractor exceeded the revised contract completion date 31 calendar days (January 30, 2010 through March 1, 2010). The Contractor is not eligible for additional time extensions for the dates between December 15, 2009 and March 16, 2010 because the authorized time extensions did not extend the contract time beyond December 15, 2010 as required Article 108-10B(5) of the Standard Specifications. **Please note the key to applying the additional time extension, is authorized extensions that revised the completion date beyond December 15th after the original completion date.** Therefore, 31 days of liquidated damages are assessable against the Contractor.

In addition, the Standard Specifications and Special Provisions establish seasonal limitations for performance of certain work, such as asphalt paving, landscape planting, chemical stabilization of soil, CTBC, and thermoplastic pavement markings. During these periods, Contractors are prohibited from performing the specified work. The seasonal limitations have been established based upon our experience that work performed during the seasonal limitation period will likely result in an inferior or unsatisfactory product. While seasonal limitations should normally be enforced, circumstances may justify that these requirements be modified or waived in their entirety. Changes in the seasonal limitations should be made when in the best interest of the Department and the public. This would include performance of work necessary to eliminate conditions

that are a hazard to the public or impair the function of the facility, and work necessary to open a facility to public traffic.

When requested by the Contractor, changes in the seasonal limitations may be made to allow completion of the item of work. Normally, seasonal limitations should be waived when the work can be completed in one or two weeks, and when weather conditions will allow performance of the work for a major portion of the workday. Seasonal limitations should not be waived when weather conditions will allow performance of the work for only a few hours each workday. Authority to change seasonal limitations is delegated to the State Construction Engineer for TIP contract construction and to the Division Engineer for all other construction, including purchase order contracts. Decisions regarding changes to seasonal limitations should be made consistently and fairly, as it may affect the cost of performing the work. When appropriate, these decisions should be made in consultation with representatives of the Pavement Construction Section, Materials and Tests Unit, Roadside Environmental Unit, and Geotechnical Engineering Unit.

When all other work on the project is complete, with the exception of an item or items on which work is precluded by seasonal limitations, this Article of the Specifications provide that the Engineer may waive the assessment of liquidated damages. The administration of this provision must be done consistently and fairly. Authority to waive the assessment of liquidated damages is delegated to the State Construction Engineer for all contract construction and to the Division Engineer for purchase order contracts.

Please note that liquidated damages should not be waived for the days on which the Contractor is allowed to pursue work during the period of seasonal limitations. Also note that when liquidated damages are waived for work precluded by seasonal limitations, **this does not constitute a contract time extension**.

Example:

Contract Completion Date:	October 15, 2009
Actual Completion Date:	April 1, 2010
Authorized Time Extensions:	35 calendar days
County:	Craven

Applying the authorized time extensions, the revised completion date is November 19, 2009 and the apparent liquidated damages are 133 calendar days (November 20, 2009 through April 1, 2010.) The Contractor completed all work for the project except thermoplastic on December 20, 2009. The seasonal limitation for thermoplastic pavement markings is December 16 through March 15 for projects east of I-95. The Contractor performed work on the project December 16 - 20, 2009, therefore the liquidated damages are waived for the dates December 21, 2009 through March 15, 2010 (85 days). The assessable liquidated damages against the Contractor are 48 calendar days (133- 85.)

Example:

Contract Completion Date:	October 1, 2009
Actual completion Date:	May 1, 2010
Authorized time extensions:	75 calendar days
County:	Transylvania

The Contractor completed all work except paving the final surface course and thermoplastic pavement markings on December 15, 2009. The Contractor began paving the final surface of asphalt on March 17, 2010 and began the thermoplastic markings April 17, 2010. Applying the authorized time extensions, October 1, 2009 + 75 calendar days, the revised contract completion date is December 15, 2009; therefore there are 137 calendar days (December 16, 2009 through May 1, 2010), of apparent liquidated damages. Article 610-4 of the Standard Specifications state there is a seasonal limitation for the final layer of pavement between December 16, and March 16 of the next year for a layer ≥1" thick. The contract time cannot be extended from December 16 through March 15 because the accumulated time extensions did not extend the contract beyond December 15, 2009. However, since there is a seasonal limitation for the final layer of pavement, the liquidated damages can be waived for the dates between December 16, 2009 and March 15, 2010. Article 1205-4(B) has seasonal limitations for the thermoplastic pavement markings west of and including I-77, between November 16 and April 15 of the next year. To apply the seasonal limitations for the thermoplastic pavement markings all work except the pavement markings should be complete (making pavement markings the controlling operation) during the seasonal limitations. Since the asphalt paving was the controlling operation, liquidated damages would not be waived for thermoplastic pavement markings. Therefore the liquidated damages for 47 days {March 16, 2010 through May 1, 2010) are assessable against the Contractor.

See the Records and Reports Section of this manual for an example of how to calculate apparent liquidated damages for contracts when damages are waived for seasonal limitations.

108-11 LIQUIDATED DAMAGES

The contractual agreement between the Department and the Contractor provides that accumulated liquidated damages will be deducted in an amount equal to the rate of liquidated damages times the number of calendar days beyond the completion date required to complete the project. These provisions also apply to intermediate contract times. The rate of liquidated damages is set forth in the Project Special Provisions for each contract.

For the Department's policy relative to the withholding of anticipated liquidated damages from partial estimates, see Article 109-4 of this Manual.

108-12 EXTENSION OF CONTRACT TIME AND APPORTIONMENT OF LIQUIDATED DAMAGES

The Department has the contractual right to extend the completion date in accordance with Article 108-10 of the Standard Specifications, to remit to the Contractor the amount of liquidated damages involved in a completion date extension, and to assess liquidated damages for the balance of any overrun in contract time.

108-13 TERMINATION OF CONTRACT

In the event the implementation of this provision is required, appropriate instructions will be issued by the State Construction Engineer.

108-14 TERMINATION OF CONTRACTOR'S RESPONSIBILITY

The Contractor's responsibility for the maintenance of the work ceases as of the date of final acceptance by the Department (see Article 105-17 of the Standard Specifications); however, after final acceptance, the Department may still recover any overpayment to the Contractor by reason of error or failure of the Contractor to fulfill the terms of the contract. (See Article 107-20 of the Standard Specifications.)

Form 108-10(B)4

Calculation of Time Extension(s) When Pro Rata is Not Realistic of the Time Required to Perform Work

Item of Work_____

A) Final estimate quantity for item of work _____

B) Number of days Contractor worked on item when it was a current controlling operation _____

C) Average rate of production for item of work (A/B) _____

D) Number of work days overrun quantity was a controlling operation (Overrun quantity for item of work/C) _____

E) Theoretical calendar days overrun was a controlling operation (D x 30/16) _____

F) Pro rata time extension allowed due to overrun of item of work (Original contract calendar days)(Overrun quantity for item of work)(Unit price)/(Original contract amount) _____

G) Additional contract time allowed due to the overrun of item of work (E - F) _____

(See Instruction for Form 108-10(B)4 on the following page)

Instructions for Form 108-10(B)4

A. Determine the final estimate quantity for the item of work.
B. The project diaries will be reviewed and a determination made of the number of days that the Contractor worked on the item when the item involved constituted a current controlling operation. The results of this review will give the total number of days during the life of the project that the item involved was a current controlling operation.
C. Divide the total number of days Item (B) above into the final estimate quantity Item (A) of the item. This will give an average rate of work performed on the item per day that the item was a controlling operation.
D. Divide the overrun quantity of the item by the average rate of work performed per day Item (C) . The answer will be the number of days that the overrun portion was a current controlling operation.
E. Convert the number of worked days (Item D) to calendar days by using the ratio of 16 work days equals 30 calendar days.
F. Determine the pro rata time extension allowed for the overrun of the item by multiplying the original number of calendar days by the overrun quantity by the unit price divided by the original contract amount.
G. Determine the additional time extension allowed for the overrun by subtracting the pro rata time extension (Item F) from the theoretical number of calendar days the overrun portion of the item was the controlling operation.

SECTION 109
MEASUREMENT AND PAYMENT

109-1 MEASUREMENT OF QUANTITIES

For each contract bid item that is included in the contract the accompanying Specification, or Project Special Provision will include a description of "Measurement and Payment." All personnel involved in the measurement of quantities for pay purposes should be familiar with the contract relative to these descriptions.

These measurements are used in computation of quantities for the respective item, i.e., the measurement as it is to be recorded in the pay record book or any other applicable source document. Unless the Standard Specifications indicate a specific method of measurement, pay items should be measured to the nearest reasonable digit and entered in HiCAMS up to three places.

If the computed numbers must be rounded so that the number of digits does not exceed the three places allowed in HiCAMS, the following rules of rounding off should be used:

1. When the digits to be rounded are 0, 1, 2, 3, or 4, the preceding digit should not be changed and the digit should be dropped (e.g. 24.3964 is rounded to 24.396).
2. When the digits to be rounded are 5, 6, 7, 8, or 9, the preceding digit should be increased by one (e.g. 24.3968 is rounded to 24.397).

109-2 SCOPE OF PAYMENT

Everyone should thoroughly familiarize themselves with the "Measurement and Payment" article for each contract item. This article describes the work that the Contractor has contracted to perform at the contract lump sum or unit price. Thorough understanding of the work to be paid for will ensure that the Contractor does complete the work, and will also provide a basis of determining whether or not extra work is required. This article states that the same work will not be paid under more than one line item.

Example: Clearing and grading required in fence construction is included in the basis of payment for the fence item; therefore, the work of clearing and grubbing would not be measured and paid for under any other contract item.

Example: When a pipe line is installed across an existing asphalt surface, removal of the existing asphalt is a part of the pipe installation and shall not be measured and paid under the pavement removal line item.

109-3 FORCE ACCOUNT WORK

When the Engineer directs the Contractor to perform work and the two parties cannot agree on the price for the work, the Engineer shall issue a Force Account Notice to the Contractor and the work will be paid for in accordance with the Force Account provisions in Article 109-3 of the Standard Specifications. When the above conditions have been met, the Engineer or his representative **has the authority and responsibility to direct** the Contractor's operations to the extent that only the equipment, material, labor, and hours worked as authorized by him will be allowed for payment. In no

instance will force account records be assembled after the fact to form a basis for an agreed lump sum or unit price for work by supplemental agreement. However, it is permissible to perform and pay for the first portion of the work by force account in order to develop a price for payment of the remainder of the work by supplemental agreement.

When a Contractor is required to perform work that he considers to be extra work or to perform work which he feels justifies additional compensation and his request for additional compensation has been denied, it is the Contractor's responsibility to advise the Engineer in writing of his intention to file a request for additional compensation and to keep cost records in accordance with Article 109-3 of the Standard Specifications prior to beginning any of the affected work. In these instances the Engineer or his representative **does not have the authority** to direct the Contractor's operations but it is their responsibility to maintain independent cost records and continually compare them. The Resident Engineer's staff must maintain exceedingly accurate and detailed diaries reflecting the performance of disputed work. Any differences between the records should be reconciled or, when they can not be reconciled, the Engineer should objectively document the circumstances and the points of contention.

Authority to approve the performance of **extra work** on a force account basis is delegated to the Engineer when the estimated amount of the work does not exceed the respective amount for which they have authority to approve supplemental agreements for extra work. Approval to perform other work on a force account basis is secured from the State Construction Engineer or his delegated representative. To secure approval, the Engineer must extend the Contractor's proposed price for performing the work, and the Engineer's breakdown estimate of performing the work by force account. This may be a letter with attachments and not on a supplemental agreement form. In cases of emergency, this approval may be secured by telephone, Fax, or E-mail. Where applicable, the Engineer will secure the concurrence of the Federal Highway Administration. When approval is secured, the Engineer shall extend a Force Account Notice (see Records and Reports Section of this Manual) to the Contractor. The Contractor may proceed with the work after the Engineer has approved the base wage rates for labor to be utilized in the affected work. Payment for work performed on a force account basis must be documented in HiCAMS.

A pro-rata extension in the contract completion date in accordance with Article 108-10(B)1 of the Standard Specifications will be allowed for performing the force account work. When justified by the Contractor, the completion date may be further extended as provided in Article 108-10(B)4 of the Standard Specifications.

The **Specifications** contain specific guidelines for payment of work performed by force account.

109-4 PARTIAL PAYMENTS

(A) GENERAL

Partial payments will be made to the Contractor based upon progress estimates prepared by the Engineer.

The Specifications provide that partial payments may be made twice each month if, in the judgment of the Engineer, the amount of work performed is sufficient to warrant such payment. If the Contractor requests an additional estimate and the amount due exceeds $100,000.00 for a one-half month period, the Engineer can approve the request. A partial payment should be made in the middle of the normal estimate period and will

include only those items of work with a significant current amount. Payment for other items of work would be made only at the end of the estimate period.

Partial payments shall be subject to correction in the final estimate; however, the Engineer should take whatever measures necessary to ensure the quantities on the monthly estimate are substantially correct and therefore compensate the Contractor for all of the work performed during the partial payment period. **Under no circumstances shall the Engineer utilize the Contractor's measurements alone as the basis for partial or final payment**. A good example of this is estimation of earthwork quantities. The use of Contractor's load counts for payment of 'Unclassified Excavation' is not acceptable. Cross-reference verification by another acceptable method such as cross-sections, balance point computations, photogrammetry, or average end area should be employed by the Resident Engineer's staff to ensure accurate pay quantities.

These quantities determine whether or not certain administrative procedures will be implemented that have serious ramifications. For example, partial payment quantities determine whether or not a Contractor is subject to removal from the list of prequalified bidders or the withholding of anticipated liquidated damages. Accordingly, the Engineer shall take appropriate care in the preparation of the estimate and shall submit it as expeditiously as possible. The preparation of partial pay estimates should be given a top priority by the Engineer.

(B) PROMPT PAYMENT

This subarticle provides that all levels of contractors - prime, subcontractor, or second tier subcontractor - must make payment to the obligee (subcontractor, second tier subcontractor or material supplier) within seven days of knowledgeable receipt of payment for work performed or services rendered during the time for which a partial payment was made by the Department. Failure of any level of contractor to make prompt payment as described in the provision can result in withholding future payments until the issue is resolved and removal of an approved contractor from the prequalified bidder's list.

If a subcontractor, second tier subcontractor, or material supplier has a complaint regarding receiving payments in accordance with the prompt pay specification, he should write a letter to the Resident Engineer detailing the work performed or materials supplied and the date of services rendered. The Resident Engineer should investigate the issue to determine if the Department has made payment for work and, if so, the date payment was made. If the Department has made payment for the work and a reasonable amount of time has passed for the payment to be received, the Resident Engineer should send a certified letter to the contractor in question, requesting proof of payment or reason for nonpayment within seven calendar days of receipt of monies. (An example letter is included at the end of this section.) The Resident Engineer should notify the State Construction Engineer if the contractor fails to provide an acceptable response, within seven days.

The specifications allow the Department to withhold payment from contractors who are not in compliance with prompt payment specification. However, before withholding payments the Resident Engineer should consult with the State Construction Engineer. The State Construction Engineer should be copied on all correspondence relating to prompt payment.

SAMPLE SUBCONTRACTOR PAYMENT REQUEST LETTER

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

BEVERLY EAVES PERDUE
GOVERNOR

EUGENE A. CONTI, JR.
SECRETARY

October 19, 2010

CERTIFIED MAIL

Contract No.: C211111
Project: R-5678E
County: Honey
Description: Storm Drainage Infiltration Basins

Super Contracting Company
333 Alto Road
Wheatown, North Carolina 28777

Subject: Subcontractor Payment

Gentlemen:

The Department has been notified by Stones Unlimited of an outstanding payment due them for work performed on the above project.

Subarticle 109-4(B) of the Standard Specifications requires that contractors at all levels; prime, subcontractors, or second tier subcontractors, shall within seven calendar days of receipt of monies, resulting from the satisfactory completion of work performed, pay subcontractors, second tier subcontractors or material suppliers.

Please provide documentation to this office within seven (7) days of receipt of this letter, which supports that all outstanding obligations to Stones Unlimited have been met or provide justification for withholding payment. Please note that failure to make prompt payment in accordance with the Specifications may result in removing an approved contractor from the prequalified bidders list or the approved subcontractors' list.

Should you have any questions, contact I. M Resident, P. E. at 555-555-5555.

Sincerely,

I. M. Resident, P. E. Resident Engineer

Cc: Division Engineer
State Construction Engineer
Bridge or Roadway Construction Engineer

(C) UNBALANCED BIDS

When the Board awards a contract that contains unbalanced bid price(s), the State Construction Engineer will notify the Division Engineer and Engineer of the reasonable unit or lump sum price(s) for the item(s) of work. Partial payment for work performed on an unbalanced bid item will be made at the reasonable unit or lump sum price(s) until the last partial payment estimate at which time payment will be made at the bid price.

109-5 PAYMENT FOR MATERIAL TO BE USED IN THE WORK

Payment for materials delivered to or fabricated for a project may be up to **95% of the delivered cost of materials**, if it is considered the remaining 5% is sufficient to compensate for the remainder of this work. The amount paid will be reduced by any potential savings or discounts regardless of whether the Contractor receives the benefit. If the Engineer is of the opinion that payment should be less than 95%, the State Construction Engineer should be consulted. See the Records and Reports Section of this Manual.

Prior to the Department making payment for materials, the Contractor shall request a materials payment in writing and shall furnish documentation as required by the Specifications as follows:

1. Consent of Surety - Shall be either on the surety's official stationery with the seal of the surety affixed, or on the local agency's stationery with the seal of the surety affixed and a Power of Attorney attached thereto. (See Records and Reports Section of this Manual for sample.) A blanket consent of surety is acceptable to encompass all materials payment requests.
2. Bill of Sale - Wording shall be such that the material is legally assigned to the Department of Transportation (See Records and Reports Section of this Manual for sample.)
3. Invoice from Material Supplier - Any discount shown must be deducted. The invoice does not have to be marked "Paid."

These documents will be retained in the Engineer's files as materials payment documentation. Materials payments shall be documented in HiCAMS and shall be associated with the appropriate line items.

The unit of measure shall be the same as the contract item, i.e. Structural Steel - Lump Sum, etc. To arrive at the lump sum price, the material supplier's invoices shall be totaled including tax and less discounts. This total shall be multiplied by the percentage to be paid with the result being the lump sum price shown on the estimate.

To arrive at the unit price, add the dollar value of the material supplier's invoices including tax and deducting any discounts. Total the quantity of material being paid for, which is represented by the invoices. Divide 95% of the dollar value of the invoice total by the total quantity of the material to determine the unit price.

As the material is incorporated into the project, it shall be paid for at the contract unit price and the quantity paid will be deducted from the materials item. The Engineer must verify that the materials payments are deducted as payment is made at the contract unit prices. Payment for materials shall be included on a regular monthly estimate unless the amount of material being paid for is $100,000 or more, and the Contractor requests

that the estimate be prepared before the end of the partial payment period. In this case, the estimate shall be for just the materials.

The following guidelines shall also be considered prior to making payments for materials items:

1. The Engineer shall assure quantities paid for are on hand at all times. When material is being stored at a fabricator's facility or at a distance from the project, Materials and Tests personnel or another Engineer should be contacted for assistance. The Engineer should have the material periodically checked to determine the quantity paid is intact. Material should be stored in a responsible manner in order to assist the Engineer in periodically verifying the materials, to prevent damage, and to safeguard against theft and deterioration.
2. All materials must have been tested and determined to meet the requirements of the Standard Specifications.
3. The material, except for bulky materials requiring fabrication at an off-site location, must be stored on or in the general vicinity of the project.
4. The material must be stored in an acceptable manner. When material has deteriorated in storage such that it cannot be used, payment shall be deleted from the estimate.

109-6 PAYMENT FOR LEFTOVER MATERIALS

At the end of a contract, there are often leftover materials that will not be used on the contract. These are materials that were ordered for the contract by the Contractor, but were then not needed or used on the project. The Department will often negotiate with the Contractor as to how to handle these items. Leftover materials are handled in one of three ways in SAP (R/3).

The process flow should be:

Construction Unit contacts the Division Engineer…

If DOT can use the item in inventory, follow instructions for #2 below.
If DOT cannot use the item in inventory, follow instructions for #1 below.
If DOT cannot use the item in inventory and the contract is closed, follow instructions for #2, but charge the WBS and object (53290001NP).

1. If the contract is still open, make sure it has a non-participating line. If it doesn't, one will have to be added using Contract Change. HiCAMS will submit an estimate just for the leftover materials charging the non-participating line for the cost. Payment will be made as a regular estimate. If it's a State funded WBS, also make sure to make it non-participating.
2. If the contract is closed, the **Contractor** will prepare a memo stating that this is for leftover material for XX contract that has already been closed and the leftover materials have been delivered to the inventory plant at XX location. Construction will create an FB60 transaction charging the inventory account at that location for the material. Use the same cost distribution as was on the contract, but make sure the cost element is a non-participating general ledger account. Most often, use the old 423 which is now 53290001NP. Include the same WBS and use functional area 6080.

At some point, the Contractor needs to talk to the inventory personnel at the location where the material will go so that a MIGO transaction can be prepared. The clerk should make sure the material number(s) have been extended to the inventory plant. After all numbers have been verified/extended the inventory plant clerk will enter the material using MIGO > Goods Receipt > Others > Movement type 961. The total value for each line is to be entered in the "Ext. amount LC" field on the "Where" tab (i.e. If 10 widgets are received at $2.00 each, the total value of $20.00 is to be entered in the Ext. amount LC field.)

There have been situations where the goods were charged to the contract at an amount that equals the material cost and the installation cost. If this is the case, do not use the contract to compute the cost unless a new line is added that charges only for the cost of the material.

109-8 FUEL PRICE ADJUSTMENT

Fuel price adjustments are calculated automatically in HiCAMS when line item indicators are accurately verified by the Engineer.

When executing Supplemental Agreements that add line items that typically receive fuel price adjustments, the agreement should specify if fuel price adjustments are applicable to that item. If so, the line item indicator should be checked on the Supplemental Agreement to ensure the fuel adjustment is applied. The agreed price should be based on the fuel base index price contained in the contract. For example, if a Supplemental Agreement is executed for 'Borrow Excavation' which includes utilization of the contract base index price, the negotiated price should reflect receiving adjustment based on the contract base index price.

109-9 FINAL PAYMENT

After the final estimate has been prepared and checked in accordance with the procedures outlined in the Records and Reports Section, the Division Engineer shall notify the Contractor, in writing, generally setting forth the following information.

1. The final quantities (these should be transmitted to the Contractor as soon as they are verified). The final quantities should be generated from the Contract Final Quantities Report from the Review Estimates Window of HiCAMS .
2. The amount of apparent liquidated damages.
3. Documents as required by Article 109-10 of the Specifications which have not been received.
4. The date until which the final estimate will be held in the Division Office for the Contractor's review, normally a minimum of 10 days.
5. A request that the Contractor reply, in writing, as to whether or not he desires to review the estimate and, if affirmative, the date and time desired for such review.
6. Advise the Contractor that if he has any requests for extensions of the completion date and/or adjustments in compensation, these must be submitted in detail and in accordance with the applicable provisions of the Specifications and Article 109-9 of this Manual prior to the requested meeting date.

When the Contractor requests a review meeting and has no contention for either an extension of the completion date or adjustment in compensation, the Division Engineer or

Division Construction Engineer and the Engineer should meet with representatives of the Contractor to review the final quantities. The Contractor should be given access **in the Division Office** to all documentation of pay quantities but not the **Project Diaries**. **Diaries kept in connection with construction or repair contracts shall not be considered public records until the final estimate has been paid.**

When the Contractor does present a written request for an extension of the completion date and/or adjustment in compensation, a closeout conference date should be established such that the Division Engineer or Division Construction Engineer, the Engineer, and the State Construction Engineer or his delegated representative will be in attendance. At the closeout conference the Contractor shall be given every reasonable opportunity to justify his contention within the terms of the contract. The Contractor should be notified in writing of the Department's decision regarding extensions of the completion date and adjustments in compensation.

After receipt of the Contractor's final claim letter, if no review meeting is requested, the Division Engineer shall submit a written report to the State Construction Engineer setting forth his recommendations regarding the Contractor's requests. This review of the Contractor's request **must be fully documented by the project records and by specific reference to the Specifications**. Valid requests for extensions of the completion date are limited to those as allowed under Article 108-10 of the Standard Specifications. Valid requests for adjustments in compensation are limited to the provisions of the Specifications.

"Final payment," as described in this article of the Specifications, should not be confused with any subsequent settlement that may be allowed under a verified claim. Final payment under the Specifications represents payment of the final estimate.

109-10 DOCUMENTS REQUIRED FOR THE PAYMENT OF THE FINAL ESTIMATE

This article provides for certain documents to be submitted to and accepted by the **State Construction Engineer** prior to processing the final estimate. **Sample copies** of acceptable documents are contained in the final estimate portion of the Records and Reports Section of this Manual.

It is particularly important that when these documents are received by the Engineer, they be examined for acceptability and the Contractor promptly notified, in writing, of the date of their receipt. If the Contractor has written a request for an extension of the completion date and/or adjustment in compensation, it is necessary for this request to be in accordance with the applicable provisions of the Specifications before such documents may be considered acceptable. For instance, in requesting an extension of the completion date, the Contractor must specifically set forth the documented circumstances resulting in the alleged delay, the controlling operation delayed, the calendar dates on which he was delayed, and the number of calendar days by which he is requesting the completion date to be extended (reference Article 108-10 of the Specifications). When the Contractor fails to include this information, he should be advised, in writing, that the document is not acceptable. The Specifications provide that the burden of proof is on the Contractor. It is not the Department's responsibility to accept a vague, non-descriptive contention as an acceptable document.

The importance of the acceptability of these documents lies in the fact that they impact the effective date of interest accrual on the final payment (See Article 109-11).

Article 102-16 of the Standard Specifications provides for disqualification of a Contractor from further bidding due to submission of false information or failure to submit the documents required by Article 109-10 within 60 days of the Engineer's request.

109-11 INTEREST OF FINAL PAYMENT

The procedure for computing the date interest begins on the final payment is included in the final estimate portion of the Records and Reports Section of this Manual. There are four conditions that enter into the determination of the date interest begins.

1. The date of acceptance of the project.
2. The date the Division Engineer notifies the Contractor the final estimate has been completed (Reference Article 109-9 of this Manual).
3. The date the Contractor submits the required documents per Article 109-10 of the Specifications.
4. The date the final estimate is paid.

The Department has the responsibility to complete the checking of the final estimate, to notify the Contractor of same, and to make final payment as expeditiously as possible.

SECTION 150
MAINTENANCE OF TRAFFIC

150-1 GENERAL

The Contractor is required to maintain the project in a condition suitable for the continuous, safe and convenient passage of traffic.